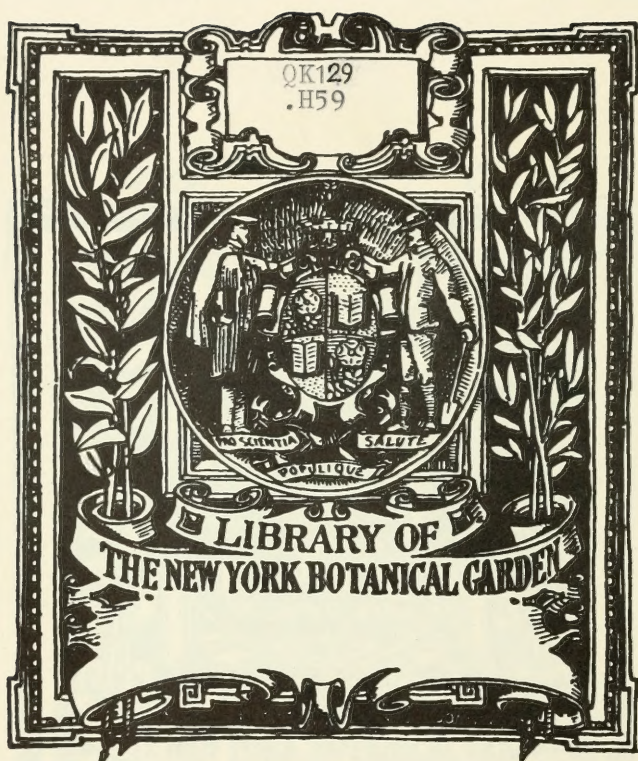


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JOHN M. CLARKE, *Director*

HOMER D. HOUSE, *State Botanist*

ANNOTATED LIST OF THE FERNS AND FLOWERING PLANTS OF NEW YORK STATE

BY
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ANNOTATED LIST OF THE FERNS AND FLOWERING PLANTS OF NEW YORK STATE

The aim of the present list of the Ferns and Flowering Plants of New York State, is to bring together as complete a list of these elements of our flora, both native and naturalized, including those which are reported as merely adventive, as the present state of our knowledge of them permits. The "Wild Flowers of New York" records, without definite localities in most instances, only those plants which might be classed under the rather elastic term "wild flowers." There is an apparent need, which this catalog attempts to supply, for a complete list of the plants of the State, giving in addition to the known list of plants of the State, brief citations of earlier notices of those which are regarded as rare or noteworthy or the range of which is limited or otherwise deserving of special comment. These notes are scattered through the botanical literature of the past century, and the annotation of them is urgently needed by the many students of our flora in all sections of the State.

The earliest catalog of the plants of the State of New York was published in 1814, by Jacob Green, closely followed in 1819 by John Torrey's catalog of the plants growing within 30 miles of the city of New York. Torrey's catalog of the plants of the State did not appear until 1840 and was the forerunner of his well known "Flora of the State" in two volumes published by the State in 1843. This publication was followed by revised lists of the plants of the State in 1849 and 1866.

During this period a few noteworthy local lists of plants were published in the annual reports of the Regents of the State of New York. Among these lists were those for Aurora, Cayuga county by George W. Schenck (1840); Kinderhook, Columbia county, by W. V. S. Woodworth (1839); Homer, Cortland county, by George W. Bradford (1833); Amenia, Dutchess county, by A. Winchell (1851); Erasmus Hall, Kings county, by John Barrea Zabriskie

(1835); Lewis county, by Franklin B. Hough (1846); Bridgewater, Oneida county, by Asa Gray (1833); Onondaga, Onondaga county, by J. L. Hendrick (1837, 1838); Seneca and Crooked lakes, by H. P. Sartwell (1845) and Ludlowville, Tompkins county, by Henry B. Lord (1866).

Other very early but historically noteworthy lists of plants were: "Plantae Plandomenses" (Nassau county) by Casper Wister Eddy (1807); "Catalogus Plantarum-Insula Noveboraco," by John LeConte (1811) and "Plantae Coldenhamiae" (Orange county) by Cadwallader Colden (1749-1751).

The work started by John Torrey was carried forward by the late Dr Charles Horton Peck, State Botanist from 1869 to 1913, and while each annual report of the State Botanist contained additions to the known flora of the State, no subsequent complete list of the plants of the entire State has been published, although John Paine jr, published in 1865 a "Catalogue of the Plants of Oneida County and Vicinity," which was virtually a flora of the entire State north of the Hudson highlands.

Since the publication in 1843 of Torrey's Flora and in 1866 of Paine's Catalogue, the knowledge regarding the vegetation of the State has been richly contributed to, not alone by the work of the State Botanist, but also by a constantly increasing number of other botanists and scientific bodies with the result that we have today numerous authentic and quite complete local floras and lists. In nearly all cases, however, these works are somewhat restricted in value by the absence of annotations covering the work previously accomplished. The best known of these local floras are the following:

Beckwith, Macauley & Fuller. Plants of Monroe County and Vicinity, with Supplementary lists.

Clute. Flora of the Upper Susquehanna.

Day. Catalogue of the Plants of Buffalo and Vicinity. Catalogue of the Ferns and Flowering Plants in the Vicinity of Niagara Falls.

Dudley. The Cayuga Flora.

Burgess. The Chautauqua Flora.

Fenno. Plants of the Susquehanna Valley and Adjacent Hills of Tioga County.

Gordinier and Howe. Flora of Rensselaer County.

Hollick and Britton. Flora of Richmond County.

Hoysradt. Flora of Pine Plains, Dutchess County.

- Paige.** Catalogue of the Flowering Plants of Schenectady County.
Peck. Plants of the Summit of Mount Marcy. Plants of North Elba (Essex County).
Markle and Peck. Catalogue of the Plants of Albany County.
Willis. Report of the Flora of Westchester County.
Miller and Young. Catalogue of the Plants of Suffolk County.
Wright and Hall. Catalogue of the Plants in the Vicinity of Troy.
Goodrich. Flora of Onondaga. (The identification of many plants reported in this work is obviously incorrect.)
House. Flora of the Eastern End of Oneida Lake.
Taylor. Flora of the Vicinity of New York.
The Vegetation of Montauk.
Burnham and Latham. Flora of Southold and Gardiner's Island.

For a complete list of the published articles on the flora of New York the reader is referred to the "Bibliography of the Botany of New York State," in the New York State Museum Bulletin 188 (1916).

During the past few decades our knowledge of the flora of the State has increased greatly, both by special studies upon local floras and by critical investigations upon certain groups of plants such as the ferns, sedges, violets, orchids, thorns and brambles. Most of the publications upon these groups do not refer specifically to the flora of this State but cover the groups indicated without regard to geographical subdivisions, and like many other botanical papers in recent literature, are not to be cited in a bibliography relating exclusively to the State of New York. Consequently the following pages contain numerous references to botanical literature, which it is hoped will be of value and assistance to students of local floras. It is felt that there is no need to cite published records of the commoner species. In the case of the less frequent or rarer species, or those of peculiar distribution, or unsatisfactorily known distribution, the usefulness of the catalog is increased by citing not only the published records, but in many cases by also citing herbarium specimens.

A catalog of this scope is not the place to discuss the ecological aspects of the vegetation of the State. The composition and definitions of plant societies and the complex relationships existing between plants and climate and soil factors is a subject which calls for special treatment and which bears only an indirect relation to a catalog of the plants comprising the vegetation of the State. This introduction, however, cannot be complete without a brief mention

of the importance of determining the soil preferences of our native flora, and the determination of the effect of soil and length of growing season, and other ecological factors, upon the distribution and abundance of native species of plants. The opportunities for this important work, which has been too long neglected, are rapidly diminishing under the changes wrought by clearing, cultivation and other changes resulting from human occupation.

Limestone rock formation and calcareous soils exert a most marked influence upon the distribution of plants, and so also do acidulous and siliceous soils, and the relation of these formations and soils to plant distribution should be more fully investigated.

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Division I PTERIDOPHYTA*

Family I **OPHIOGLOSSACEAE** Presl. Tent. Pterid. 10. 1836

Adder's-tongue family

OPHIOGLOSSUM (Tourn.) L. Sp. Pl. 1062. 1753

Ophioglossum vulgatum L., l.c. Adder's tongue

In moist meadows, boggy depressions and damp thickets. Uncommon or locally abundant in most sections of the State.

Apparently rare in the Susquehanna valley where it is reported from a single locality in northern Chenango county (*Clute*, Fl. Upper Susquehanna 141. 1898). Rare in northern New York — Lisbon and Canton, St Lawrence county, *Mrs O. P. Phelps*. Newcomb, Essex county, 1600 feet altitude, *House*.

With certain sterile or impoverished conditions of the soil, depauperate forms sometimes occur, which may not exceed 5 or 6 cm in height, but are fertile. Such plants represent forma **pusillum** (Raf.) *House*, N. Y. State Mus. Bul. 243-244: 42. 1923 (*O. pusillum* Raf. Jour., Bot. Desv. (II) 4: 273. 1814, and *O. Grayi* Beck Bot. N. & Mid. States 458. 1833). Forma **arenarium** (E. G. Britton) *Clute* (*O. arenarium* E. G. Britton, Torr. Club Bul. 24: 555. pl. 318. 1897), occurs in sandy thickets near the seacoast.

BOTRYCHIUM Sw. Schrad. Jour. Bot. 1800²: 110. 1801

I **Botrychium simplex** Hitchc. Am. Jour. Sci. 6: 103. pl. 8. 1823
Little grape fern

In thickets, pastures and meadows. Rare.

Riverhead, Long Island, *E. S. Miller* (Torr. Club Bul. 3: 56. 1872). Wading River, *Miller* (l.c. 4: 42. 1873). Ithaca, *Dudley* (l.c. 9: 100. 1882). Pastures near Fall brook, Oneida county, and State marsh, Litchfield, Herkimer county, *J. A. Paine* (Cat. Pl. Oneida county, 190. 1865). Otisco, Onondaga county, *Cowles* (25th Rep't N. Y. State Mus. 108. 1873). Oswego, *Wibbe* (31st Rep't N. Y. State Mus. 53. 1879). Danby, *Dudley* (36th Rep't, 40. 1884). Highlands of the Hudson, *Barratt*, and Rensselaer county, *Doctor Wass* (Torrey, Fl. N. Y. 2: 507. 1843). Oxford, Chenango county and Unadilla Forks, *Clute* (Fl. Upper Susquehanna 140. 1898). Washington county, *Burnham* (Am. Fern Jour. 6: 88. 1916). North Elba and Lake Placid, Essex county, *Peck*. Newcomb, *House*. Deerfield, Oneida county, *Haberer*. Baldwinsville, Onondaga county, *Beauchamp*. Galway, Saratoga county, *Phelps*. Lisbon and Canton, St Lawrence county, *Phelps*. Conquest, Cayuga county, *Metcalf & Griscom* (Rhodora 19: 33. 1917). Fenton's Fourth Lake, Lewis county, *Mrs Barnes* (Torr. Club Bul. 6: 352. 1879).

*Acknowledgment is due William R. Maxon of the United States National Museum for critical review of the manuscript on Pteridophyta.

Variable in size and cutting of the sterile blade, the recognizable forms in this State being:

Forma **simplicissimum** (Milde). Var. *simplicissimum* Milde (Nova Acta XXVI²: 666. 1858), the sterile blades simple or nearly so.

Forma **subcompositum** (Milde). Var. *subcompositum* Milde (l.c. 667), the sterile blade stalked, 3-7-divided, the two lower segments somewhat distant and stalked, narrowed at the base, sometimes these again toothed or lobed.

Forma **compositum** (Milde). Var. *compositum* Milde (l.c.), the sterile blade 3-divided, each segment stalked and again deeply lobed or divided.

Forma **cordatum** (Fr.) *B. Lunaria cordatum* Fr. Summa Veg. 1: 251 1846; var. *incisum* Midle, l.c.; var. *cordatum* A. & G. Syn. Mittleur, Fl. 1: 108. 1896), with the blade cordate or rounded with 3-7, subentire, toothed or divided segments, has not been seen from this State.

2 *Botrychium Lunaria* (L.) Sw., var. *onondagense* (Underw.)

House. N. Y. State Mus. Bul. 243-244: 47. 1923

Onondaga moonwort or moon fern

B. onondagense Underw. Torr. Club Bul. 30: 47. 1903

The New York variety of *B. Lunaria*, a circumboreal species, sometimes reported from this State, but of which no typical specimens have been seen.

The variety was first found on moist hillsides in thickets, under or near Arbor Vitae, by *Jane Hosmer*, in June 1872; by *E. W. Mundy*, in 1873, and by *Mrs S. M. Rust* in 1876 (31st Rep't N. Y. State Mus. 53. 1879, as *B. Lunaria*), and referred to by Davenport (Torr. Club Bul. 6: 177. 1877). Underwood also records it from Geddes farm, *J. S. Gifford*, 1879; Jamesville road, *Mrs Rust*, and Split Rock, *Underwood*. All of the known localities are in Onondaga county.

3 *Botrychium tenebrosum* A. A. Eaton, Fern Bul. 7: 8. 1899

Eaton's grape fern

Moist woods and swamps. Rare.

Riverhead, Long Island, *Taylor* (Fl. Vic. N. Y. 48. 1915). Deerfield, Oneida county, *Haberer* (N. Y. State Mus. Bul. 94: 21. 1905). Beaver lake, Onondaga county, *Beauchamp*.

A little known species, regarded by some as a slender form of *B. simplex*. It might also be a reduced form of *B. Lunaria*.

4 *Botrychium neglectum* Wood, Classbook, ed. 2, 635. 1847

Wood's grape fern

B. matricariaefolium Milde, Verh. Zool.-Bot. Ges. Wein 19: 123. in part, 1869. Not A. Br. 1843

Grassy woods and swamps or on shaded moist slopes. Common across the State northward, chiefly outside of the Adirondacks, but not definitely known from Long Island.

Forma **gracile** forma nova. Sterile blades small, subentire to pinnately lobed with 3-7 entire or subentire segments. Bald hill, Stamford, Delaware county, *Dowell*, July 5, 1909 (type). Boonville, Oneida, *House*. Deerfield, *Hunt*. Whitehall, *Peck*.

5 **Botrychium angustisegmentum** (Pease & Moore) Fernald,
Rhodora 17: 87. 1915 Lance-leaved grape fern

B. lanceolatum var. *angustisegmentum* Pease & Moore, Rhodora 8: 229. 1906
Meadows and moist woods. Infrequent and local.

First recorded as *B. lanceolatum* by J. A. Paine (Cat. Pl. Oneida Co. 179, 186. 1865). Subsequent collections and reports indicate that it ranges across the State northward, outside of the higher Adirondacks, southward to Rockland county. Typical *B. lanceolatum* is now regarded as more boreal in distribution and as not occurring in the eastern United States.

6 **Botrychium virginianum** (L.) Sw., l.c. III

Virginia grape fern

Osmunda virginiana L. Sp. Pl. 1064. 1753

B. gracilis Pursh, Fl. Am. Sept. 656. 1814

Botrypus virginicus Michx. Fl. Bor. Am. 2: 274. 1803

Rich woods and thickets. Common. The variations of this species are described by F. K. Butters (Rhodora 19: 207. 1917).

7 **Botrychium obliquum** Muhl.; Willd. Sp. Pl. 5: 63. 1810

Ternate grape fern

B. cuneatum Desv. Mem. Soc. Linn. Paris 6: 195. 1827

B. ternatum var. *obliquum* D. C. Eaton, Ferns N. Am. 1: 149. 1878

B. dissectum forma *obliquum* Fernald, Rhodora 23: 151. 1921

Moist woods, thickets, meadows and slopes. Common in most sections of the State. Exceptionally variable.

Var. **elongatum** Gilbert & Haberer, Fern Bul. 11: 89. 1903
Oneida county, *Haberer*. Madison county, *House*. Ulster county, *Mary F. Miller*

Var. **Habereri** Gilbert, Fern Bul. 11: 89. 1903. Reported from Whitesboro, Oneida county, *Haberer*

Var. **oneidense** (Gilbert) Waters, Ferns 334. 1903.

B. ternatum var. *oneidense* Gilbert, Fern Bul. 9: 27. 1901

B. oneidense House, Am. Mid. Nat. 7: 126. 1921

A plant of peculiar appearance, which may be, as designated by Waters, only a variety of *B. obliquum*. Known from Oneida county, *Haberer*; South Bay, Madison county, *House* (*Torreya* 3: 167. 1903). Bethlehem and Alcove, Albany county, *Peck*. Albany, *House*. Ulster county, *Mary F. Miller*

B. obliquum var. **dissectum** (Spreng.) Prantl. Jahrb. Bot. Gart. Berlin 3: 342. 1884.

B. ternatum var. *dissectum* D. C. Eaton, l.c. 150.

B. dissectum Spreng. Anleit. 3: 172. 1804

B. obliquum f. *dissectum* House, l.c. 36.

In low thickets and open shaded soil. Frequent. Sometimes quite distinctive in appearance, but often showing intermediate forms or gradations with the typical *B. obliquum*. C. J. Chamberlain (Bot. Gaz. 70: 385-398. 1920) suggests that this is a sterile mutant of

B. obliquum, which seems quite likely, as mature spores capable of germination apparently are never developed. From the point of view of nomenclatorial rules it is unfortunate that this form was described 6 years before *B. obliquum*. That it should be taken up as the name of the typical species (Fernald, *Rhodora* 23: 151. 1921, footnote) is most incongruous.

8 *Botrychium silaifolium* Presl. Rel. Haenk. 1: 76. 1825

Leathery grape fern

B. rutaefolium robustum Rupe., Milde, Nova Acta Acad. Leop. Carol. 26: 763. 1858

B. ternatum subvar. *intermedium* D. C. Eaton, l.c. 149

B. obliquum intermedium Underw. Native Ferns, ed. 6. 72. 1900

B. ternatum silaifolium Clute, Fern Bul. 11: 117. 1903

B. robustum Underw. Torr. Club Bul. 30: 51. 1903

Moist meadows, sandy depressions, pastures and borders of woods. Infrequent or rare. Known from Washington and Warren counties westward to Genesee county and southward to Ulster and Otsego counties.

9 *Botrychium matricariae* (Schrank) Spreng. Syst. Veg. 4: 23.

1827

Northern grape fern

Osmunda matricariae Schrank, Baier. Fl. 2: 419. 1789

B. rutaceum Sw., l.c. 110

B. matricarioides Willd. Sp. Pl. 5: 62. 1810

B. rutaefolium A. Br., Döll, Rhein. Fl. 24. 1843

Low meadows and borders of woods and lakes. Infrequent across the northern part of the State, southward to Washington, Saratoga, Herkimer, Oneida and Lewis counties.

Family 2 **OSMUNDACEAE** R. Br. Prodr. Fl. Nov. Holl. 1:

161. 1810

Royal fern family

OSMUNDA (Tourn.) L. Sp. Pl. 1066. 1753

1 *Osmunda cinnamomea* L., l.c.

Cinnamon fern

? *O. bipinnata* L., l.c. 1065

O. alata Goldie, Edinb. Phil. Jour. 6: 322. 1822

Swamps, low meadows and wet woods. Common.

A discussion of the forms of this species by S. F. Blake will be found in *Rhodora* 15:154-156. 1913.

2 *Osmunda regalis* L., var. *spectabilis* (Willd.) A. Gray, Man.

ed. 2, 600. 1856

Royal fern

O. spectabilis Willd. Sp. Pl. 5: 98. 1810

O. glaucescens Link, Fil. Sp. 20. 1841

Low woods, marshes, swamps and moist or wet soil. Common. In the Adirondacks up to 3500 feet altitude. Infrequent or rare in the coastal sand region.

- 3 *Osmunda Claytoniana* L., l.c. 1066 Interrupted fern
O. interrupta Michx. Fl. Bor. Am. 2: 273. 1803
O. basilaris Spreng. Anleit. 3: 160. 1804

Swamps, moist woods and wet meadows. Common throughout most sections of the State and in the Adirondacks up to 2500 feet altitude.

Family 3 **SCHIZAEACEAE** Reichenb. Cons. 39. 1828
 Climbing fern family

LYGODIUM Sw., Schrad. Jour. Bot. 1800²: 106. 1801

- Odontopteris* Bernh., Schrad, l.c. 127. pl. 2. f. 4
Gisopteris Bernh., Schrad., l.c.
Hydroglossum Willd. Schr. Akad. Wiss. Erfurt. 1802: 20. 1802
Cteisium Michx. Fl. Bor. Am. 2: 275. 1803

Lygodium palmatum (Bernh.) Sw. Syn. Fil. 134. 1806
 Climbing fern

- Gisopteris palmata* Bernh., Schrad., l.c.
Hydroglossum palmatum Willd., l.c.
Cteisium paniculatum Michx., l.c.

Moist thickets and open woods. Greene and Chenango counties.
 Rare.

Unknown in this State at the time of Torrey's Flora (1843), and first found at Hunter, Greene county, by *Miss M. C. Reynolds* (28th Rep't N. Y. State Mus. 84. 1876). McDonough, Chenango county, *Mrs D. B. Fitch* (46th Rep't N. Y. State Mus. 53. 1893).

Family 4 **POLYPODIACEAE** R. Br. Prodr. 1: 145. 1810
 Fern family

ONOCLEA L. Sp. Pl. 1062. 1753

Onoclea sensibilis L., l.c. Sensitive fern

Moist meadows, swamps and marshes. Common.

The so-called var. *obtusilobula* (Schkuhr) Torrey, is an intermediate condition between the fertile and sterile fronds and occurs rather frequently, especially where the soil has been disturbed or the first growth of fronds destroyed.

PTERETIS Raf. Am. Mo. Mag. 2: 268. 1818

- Struthiopteris* Willd. Enum. 1071. 1809. Not Scop. 1760
Matteucia Todaro, Giorn. Sci. Nat. Palermo 1: 235. 1866

Pteretis nodulosa (Michx.) Nieuwl. Am. Mid. Nat. 4: 334. 1916
 American ostrich fern

Onoclea nodulosa Michx. Fl. Bor. Am. 2: 272. 1803 (excl. syn. & loc. Carolinae)

S. nodulosa Desv. Men. Soc. Linn. Paris 6²: 287. 1827.

S. pensylvanica Willd. Sp. Pl. 5: 289. 1810

S. germanica var. *pensylvanica* Lowe, Ferns, Br. & Exot. 2: 138. 1862

O. struthiopteris Am. Auth., not Linn.

P. struthiopteris Nieuwl. Am. Mid. Nat. 3: 197. 1915

M. nodulosa Fernald, Rhodora 17: 164. 1915

Moist thickets and woods, especially in rich alluvial soil along streams. Common throughout most sections of the State, but rare in some sections of the Adirondacks and apparently absent above 2500 feet altitude, and also absent from the coastal plain region of Long Island and Staten Island.

WOODSIA R. Br. Prodr. Fl. Nov. Holl. 1: 158. 1810

1 **Woodsia ilvensis** (L.) R. Br., l.c. Rusty woodsia

Acrostichum ilvensis L. Sp. Pl. 1071. 1753

Nephrodium rufidulum Michx. Fl. Bor. Am. 2: 269. 1803

Woodsia rufidula Beck, Bot. 452. 1833

On exposed rocks and ledges. Frequent throughout the northern counties, the Adirondack and Lake Champlain regions (3000 feet altitude) and southward in the Hudson valley to the Catskill mountains. Elsewhere local or rare.

Not reported from west of Onondaga county (cliffs east of Labrador pond), Moravia, Cayuga county (*Dr Charles Atwood*), and Ithaca, *C. S. Sheldon*. The only station reported for the Susquehanna watershed is Unadilla Forks. It has been reported from, but is not definitely known, on Long Island.

2 **Woodsia alpina** (Bolton) S. F. Gray, Nat. Arr. Br. Pl. 2: 17. 1821 Alpine woodsia

Acrostichum alpinum Bolton, Fil. Brit. 76. 1790

A. hyperboreum Liljeb. Kgl. Vetensk. Akad. Nya Handl. 14: 201. 1793

Woodsia hyperborea R. Br., l.c.

Moist rocks. Rare in the northern part of the State.

Lake Avalanche, *Peck* (23d Rep't N. Y. State Mus. 108. 1873, as *W. glabella*; 31st Rep't 31. 1879). Cascade lakes, *Peck*. Edmonds ponds, *Peck* (34th Rep't, 108. 1881).

3 **Woodsia glabella** R. Br., App. Frankl. Jour. 754. 1823 Smooth woodsia

Known only from Little Falls, *George Vasey*, July 1847 in Sartwell herbarium (Hamilton College), *Paine* (Cat. Pl. Oneida Co. 177. 1865).

The specimens in the Sartwell herbarium have recently been reexamined and are this species without doubt. There is no record of its having been collected in this State since, although more than one collector has carefully examined the Little Falls region. The specimens by *Peck* from Lake Avalanche, prove to be *W. alpina*.

4 **Woodsia obtusa** (Spreng.) Torrey, Cat. Pl. Geol. Rep. N. Y. 195. 1840 Blunt-lobed woodsia

Polypodium obtusum Spreng. Anleit. 3: 92. 1804

Moist rocky ledges, rocks, banks and sometimes in open woods. Frequent from Lake Champlain southward in the Hudson valley to Westchester county. Rare or local on Long Island and Staten Island. Not reported from the Adirondack region, and reported as rare and local in the Susquehanna and Chenango valleys and in western New York.

Var. *angustata* Peck, N. Y. State Mus. Bul. 54: 960. 1902, with very narrow fronds, occurs in the Hudson highlands.

DENNSTEDTIA Bernh., Schrad. Jour. Bot. 1800²: 124. 1801

Dennstedtia punctilobula (Michx.) Moore, Ind. Fil. xcvi. 1857

Hay-scented fern

Nephrodium punctilobulum Michx. Fl. Bor. Am. 2: 268. 1803

Dicksonia pilosiuscula Willd. Enum. 1076. 1809

Dicksonia punctilobula Kunze, Am. Jour. Sci. (II) 6: 88. 1848

Moist, damp or cool woods and swamps, often on moist or rocky slopes, sometimes in moist meadows. Common or frequent in the northern, eastern and central portions of the State. Rare on Long Island and Staten Island and west of Wayne county. Frequent in the Catskill mountains and Chenango county, but uncommon or rare in the southern tier of counties from Broome county westward.

FILIX Adans. Fam. Pl. 2: 20, 558, 1763

Cystopteris Bernh., Schrad. Neues Jour. Bot. 1²: 26. 1806

1 *Filix bulbifera* (L.) Underw. Native Ferns, Ed. 6, 119. 1900

Bulb-bearing fern

Polypodium bulbiferum L. Sp. Pl. 1091. 1753

Cystopteris bulbifera Bernh., l.c. 10

Wet rocks, ravines and alluvial soil along streams, sometimes in swamps. Common in the northern, eastern and central portions of the State, and below 3000 feet altitude in the Adirondacks. Absent or very rare on the coastal plain, and rare south of Dutchess, Columbia and Greene counties. Rare or at least not reported from the Catskill mountains, and uncommon or rare in the Susquehanna, Chemung and Tioga valleys.

2 *Filix fragilis* (L.) Gilib. Exerc. Phyt. 558. 1792

Brittle fern

Polypodium fragile L., l.c.

Cystopteris fragilis Bernh., l.c. 27. pl. 2.f. 9

On rocks, cliffs and less frequently in moist grassy woods. Common northward across the State, in central New York and in the western counties of the State. Less common in the southern tier of counties bordering on Pennsylvania and unknown on Long

Island. Very rare on Staten Island. Fairly common in the Hudson valley. Extremely variable, and numerous varieties and forms have been described.

POLYSTICHUM Roth, in Roemer's Arch. Bot. 2: 106. 1799
Aetopteron Ehrh. Beitr. 4: 148. 1798 (nomina usualia)

1 **Polystichum arcostichoides** (Michx.) Schott, Gen. Fil. 1834
 Christmas fern

Nephrodium acrostichoides Michx. Fl. Bor. Am. 2: 267. 1803

Aspidium acrostichoides Sw. Syn. Fil. 44. 1806

Dryopteris acrostichoides Kuntze, Rev. Gen. Pl. 812. 1891

Aetopteron acrostichoides House, Am. Fern Jour. 10: 88. 1920

In woods and on shaded slopes, especially in rocky soil. Common in most sections of the State. Rare, local or wanting in some parts of the Adirondacks and on Long Island.

The forma **incisum** (Gray) House, comb. nov. (*Aspidium acrostichoides* β . *incisum* Gray, Ann. Lyc. Nat. Hist. 3: 238. 1835; *A. Schweinitzii* Beck, Bot. N. & Mid. States 449. 1833; *Dryopteris a.* var. *Schweinitzii* Underw.; *Polystichum a.* var. *Schweinitzii* Small), with deeply incised pinnae, is occasionally found. A form with crisped, bilobed pinnae, has been described as forma **recurvatum** Clute.

2 **Polystichum Braunii** (Spenner) Fee, Gen. Fil. 278. 1852
 Braun's holly fern

Aspidium Braunii Spenner, Fl. Frib. 1: 9. 1825

A. aculeatum var. *Braunii* Doell, Rhein. Fl. 21. 1843

Dryopteris aculeata var. *Braunii* Underw. Native Ferns, Ed. 4, 112. 1893

D. Braunii Underw., Britton & Brown, Illus. Fl. 1: 15. 1896

Aetopteron Braunii House, l.c.

Rocky woods. Infrequent or local in the Catskill mountains and the eastern Adirondack region. Reported from near Ilion, Herkimer county.

Mountains of Essex county, *Macrac* (Torrey, Fl. N. Y. 2: 489. 1843). Stony Clove, Catskill mountains, *Redfield* (24th Rep't N. Y. State Mus. 101. 1872). Bushnellsville Clove near Sandaken, *Redfield* (Torr. Club Bul. 6: 331. 1879). Summit, Schoharie county, Griffins, Delaware county and Big Indian, *Peck* (31st Rep't N. Y. State Mus. 53. 1879). Indian Pass, *House*. Lower Ausable lake and Bartlett mountain, Essex county, *Peck* (25th Rep't, 108. 1873). North Elba, *Edgar Tweedy* (N. Y. State Mus. Bul. 167: 36. 1913). Ulster county, *Buchheister*; Silver Bay, Lake George, *Kemp*; Hague, Warren county, *Mrs E. Watrous* (Burnham in Am. Fern Jour. 4: 1. 1914). Ilion ravine, Herkimer county, *H. N. Simmons*, in herbarium Gilbert (Fern Bul. 11: 102. 1903). Near Titus lake, Franklin county, *C. H. French*.

Mrs Frances Theodora Parsons in How to Know the Ferns, states that this fern grows in Oswego county, a record which needs further confirmation.

THELYPTERIS (Ruppius) Schmidel, Icon. Pl. ed. 2. 45
pls. 10 and 13. 1762

Dryopteris Adans. Fam. Pl. 2: 20, 550. 1763

Aspidium Sw., Schrad. Jour. Bot. 1800²: 29, in part. 1801

Subgenus **Phegopteris** (Fee)

(*Phegopteris* Fee, Gen. Fil. 243. 1852)

- 1 **Thelypteris Phegopteris** (L.) Slosson, in Rydb. Fl. Rocky Mountains 1043. 1917 Long beech fern

Polypodium Phegopteris L. Sp. Pl. 1098. 1753

Phegopteris polypodioides Fee, l.c.

Dryopteris Phegopteris C. Chr. Ind. Fil. 284. 1905

Phegopteris Phegopteris Underw.; Small in Torr. Club Bul. 20: 462. 1893

Moist woods and hillsides. Common throughout the Adirondack region and Lake George. Frequent in the Catskills and local southward to Westchester county. Rare or local in central and western New York, but frequent in the Susquehanna region (according to Clute).

- 2 **Thelypteris hexagonoptera** (Michx.) Weatherby, Rhodora 21: 179. 1919 Broad beech fern

Polypodium hexagonopterum Michx. Fl. Bor. Am. 2: 271. 1803

Phegopteris hexagonoptera Fee, l.c.

Dryopteris hexagonoptera C. Chr., l.c. 270.

In dry woods and on open slopes. Rare on Long Island and Staten Island. Common northward and in the Catskills and frequent or locally abundant in the central and western portions of the State.

- 3 **Thelypteris Dryopteris** (L.) Slosson, l.c. 1044 Oak fern

Polypodium Dryopteris L. Sp. Pl. 1093. 1753

Phegopteris Dryopteris Fee, l.c.

Dryopteris Linneana C. Chr., l.c. 275

D. Dryopteris C. Chr. Bul. Acad. Internat. Geog. Bot. 20¹: 151. 1909

In moist woods, thickets and swamps, especially under *Arbor Vitae* and other conifers. Common northward across the State, less frequent or local westward and southward. Reported but not definitely known from Long Island.

Subgenus, **Thelypteris** (proper)

- 4 **Thelypteris Thelypteris** (L.) House, N. Y. State Mus. Bul. 233-234: 69. 1922 Marsh shield fern

Acrostichum Thelypteris L. Sp. Pl. 1071. 1753

Aspidium Thelypteris Sw., l.c. 40

Thelypteris palustris Schott, Gen. Fil., note under pl. 10. 1834

Dryopteris Thelypteris A. Gray, Man. 630. 1848

Marshes, wet woods and low meadows. Common.

5 **Thelypteris simulata** (Davenport) Nieuwland, Am. Mid. Nat.
1: 226. 1910 Dodge's shield fern

Aspidium simulatum (and *Dryopteris simulata*) Davenport, Bot. Gaz. 19:
497. 1894

In low woodlands and wooded swamps. More rarely in open marshes. Perhaps of hybrid origin between the preceding and the next following species.

Middle Village, Long Island, *Hulst* (54th Rep't N. Y. State Mus. 144. 1901). Babylon, Long Island, *Clute* (Torr. Club Bul. 26: 331. 1899). Hempstead, Long Island, *Mrs E. G. Britton* (Torreya 2: 188. 1902). Quogue, Long Island, *Kobbe* (Torreya 4: 68. 1904). Richmond county, *Dowell* (N. Y. State Mus. Bul. 116: 35. 1907). Sylvan Beach, Oneida county, *House* (Torreya 3: 116. 1903). Orient, Long Island, *Burnham & Latham* (Torreya 14: 229. 1914). Fourth lake, Herkimer county and Horseshoe, St Lawrence county, *Benedict* (Torreya 8: 285. 1908). New London, Oneida county, *House*. Newcomb, Essex county, 1600 feet altitude, *House*.

6 **Thelypteris noveboracensis** (L.) Nieuwland, l.c. New York fern

Polypodium noveboracense L. Sp. Pl. 1091. 1753

Aspidium noveboracensis Sw., l.c. 38

Dryopteris noveboracensis A. Gray, l.c.

Moist thickets, woods and swamps. Common throughout most sections of the State.

Subgenus **Dryopteris** (Adans.)

(*Dryopteris* Adans.)

7 **Thelypteris fragrans** (L.) Nieuwland, l.c. Fragrant shield fern

Polypodium fragrans L. Sp. Pl. 1089. 1753

Aspidium fragrans Sw., l.c. 35

Dryopteris fragrans Schott, Gen. Fil. 1834

On rocks in the northern part of the State. Rare and with approximately the same distribution as *Woodsia alpina*.

Lake Avalanche, *Peck* (23d Rep't N. Y. State Mus. 50. 1872). Edmonds ponds, *Peck* (34th Rep't, 57. 1881). Near Titus lake, Franklin county, *C. H. French*.

The typical form of the species is said by Fernald (*Rhodora* 25: 3. 1923) to occur only far north of our range. The form in New York is described as var. *Hookeriana* Fernald.

8 **Thelypteris cristata** (L.) Nieuwland, l.c. Crested shield fern

Polypodium cristatum L. Sp. Pl. 1090. 1753

Aspidium cristatum Sw., l.c. 37

Dryopteris cristata A. Gray, l.c. 631

In low woods and open swamps or marshes. Common or frequent throughout most sections of the State, except on Long Island and Staten Island, where it is somewhat local or rare.

Hybrids

Thelypteris cristata* x *intermedia

D. cristata x *intermedia* Dowell, Torr. Club Bul. 35: v36. 1908

Aspidium Bootii Tuckerm. Hovey's Mag. 9: 145. 1843

Dryopteris Bootii Underw. Native Ferns, ed. 4, 117. 1893

Thelypteris Bootii Nieuwland, l.c.

Frequent wherever the two parent species are found growing together.

Thelypteris cristata* x *spinulosa

Victorin, Les Fil. Que. 48. 1923

Aspidium cristatum x *spinulosa* Milde, Nov. Acad. Leop.-Carol, 26: 533. 1856

D. cristata x *spinulosa* C. Chr. Ind. Fil. 259. 1905

Thelypteris cristata* x *dilatata* var. *americana

Typical forms of *T. dilatata* are quite rare in the northeastern states, and doubtless most of the hybrids of *T. cristata* and *T. dilatata* (so-called) should be referred here. *T. dilatata* var. *americana*, is the common representative of *T. dilatata* throughout the Adirondacks and central New York. Where this hybrid occurs in the Adirondack region it is difficult to distinguish it from the preceding and usually only the presence of the two parent species and the immediate absence of *T. spinulosa* serves to identify it.

Thelypteris cristata* x *marginalis Victorin, l.c.

D. cristata x *marginalis* Davenport, Bot. Gaz. 19: 497. 1894

Occasionally reported from various sections of the State.

9 *Thelypteris Clintoniana* (D. C. Eaton) House, l.c.

Clinton's shield fern

Aspidium cristatum var. *majus* D. C. Eaton, 18 Rep't Regents, 178. 1865; l.c. 203. 1866 (name only)

A. cristatum var. *Clintonianum* D. C. Eaton; A. Gray, Man. ed. 5, 665. 1867

D. cristata var. *Clintoniana* Underw. Native Ferns, ed. 4, 115. 1893

D. Clintoniana Dowell, Proc. Staten Isl. Assoc. Arts & Sci. 1: 64. 1906

T. cristata var. *Clintoniana* Weatherby, Rhodora 21: 177. 1919

In low woods and swamps. Locally abundant across the State northward outside of the higher Adirondacks. Less frequent southward and rare on Long Island and Staten Island.

Hybrids

Thelypteris Clintoniana* x *marginalis

Victorin, l.c. 49

D. Clintoniana x *marginalis* Slosson, Torr. Club Bul. 37: 202. 1910

Thelypteris Clintoniana* x *Goldiana

Victorin, l.c.

D. Goldiana celsa Palmer, Proc. Biol. Soc., Wash. 13: 65. 1899

D. Clintoniana x *Goldiana* Dowell, Torr. Club Bul. 35: 137. 1908

Thelypteris Clintoniana* x *intermedia

D. Clintoniana x *intermedia* Dowell, l.c. 136

Thelypteris Clintoniana* x *dilatata* var. *americana

Rare in the central and northern sections of the State and the lower elevations of the Adirondack mountains.

Thelypteris Clintoniana* x *spinulosa

Victorin, l.c.

D. Clintoniana x *spinulosa* Benedict, Torr. Club Bul. 36: 45. 1909

10 **Thelypteris Goldiana** (Hook.) Nieuwland, l.c.

Goldie's shield fern

Aspidium Goldianum Hook. Edinb. Phil. Jour. 6: 333. 1822

Dryopteris Goldiana A. Gray, Man. 631. 1848

In rich woods, usually in moist soil. Rare or local. Not reported from Long Island and rare on Staten Island. More frequent and locally abundant northward and westward in the State. Occurs at 2000 feet altitude near Newcomb, Essex county.

Hybrids

Thelypteris Goldiana × **intermedia**

D. Goldiana × *intermedia* Dowell, Torr. Club Bul. 35: 138. 1908

Thelypteris Goldiana × **marginalis**

Victorin, l.c. 50

D. Goldiana × *marginalis* Dowell, l.c. 139

Thelypteris Goldiana × **spinulosa**

Nephrodium cristatum Clintonianum f. *silvaticum* Poyser, Fern Bul. 16: 13. 1908

D. Goldiana × *spinulosa* Benedict, Torr. Club Bul. 36: 47. 1909

11 **Thelypteris marginalis** (L.) Nieuwland, l.c.

Evergreen wood fern, marginal shield fern

Polypodium marginale L. Sp. Pl. 1091. 1753

Aspidium marginale Sw., l.c. 35

Dryopteris marginalis A. Gray, l.c. 632

Rocky woods, ravines and banks. Common across the State in most localities, but rare on Long Island, and rare, local or absent in some sections of the Adirondacks.

Hybrids

Thelypteris marginalis × **spinulosa**

D. pittsfordensis Slosson, Rhodora 6: 75. 1904

Nephrodium pittsfordense Davenp. Rhodora 6: 76. 1904, as syn.

Aspidium spinulosum × *marginale* Eggleston, Rhodora 6: 138. 1904

D. marginalis × *spinulosa* Slosson, Fern Bul. 16: 99. 1908

T. pittsfordensis Victorin, l.c. 51

Reported from several localities in New York.

12 **Thelypteris spinulosa** (Muell.) Nieuwland, l.c.

Spinulose shield fern

Polypodium spinulosum Muell. Fl. Fridr. 193. f. 2. 1767

Aspidium spinulosum Sw., l.c. 38

Dryopteris spinulosa Kuntze, Rev. Gen. Pl. 813. 1891

In moist, rich woodlands, usually in shaded situations. Frequent in the Adirondack region, central New York, northern New York and the western part of the State. Rare or local in southeastern New York.

13 **Thelypteris dilatata** (Hoffm.) House, l.c.

Spreading shield fern

Polypodium dilatatum Hoffm. Deutsch. Fl. 2: 7. 1795

Dryopteris dilatata A. Gray, l.c. 631

D. spinulosa var. *dilatata* Watt, Can. Nat. II. 13: 159. 1867; Underw. Native Ferns, ed. 4, 116. 1893

The typical form of this species is common in Europe, abundant on the Pacific slope especially in the northwest, but very rare in the northeastern states. It is characterised by having the margins of the indusia glandular-ciliate, and the scales of the rachis lance-attenuate, dark-brown, usually blackish and of comparatively firm texture and usually persistent. It was described by Gilbert (Fern Bul. 8: 10. 1900) as *D. spinulosa* var. *glandulosa*; and (List N. Am. Pterid. 37. 1901) as *Nephrodium spinulosum fructuosum*.

Var. *americana* (Fischer) House, l.c.

Aspidium spinulosum var. *americanum* Fischer (according to Kunze, Am. Jour. Sci. (II) 6: 84. 1848)

A. campylopterum Kunze, l.c.

A. spinulosum var. *dilatatum* f. *anadenium* Robinson, Rhodora 9: 84. 1907

D. spinulosa var. *americana* Fernald, Rhodora 17: 48. 1915

D. dilatata var. *americana* Benedict, Am. Fern Jour. 6: 34. 1916

T. spinulosa var. *americana* Weatherby, Rhodora 21: 178. 1919

Rocky woodlands in the mountainous and upland sections of the State. Not common outside of the higher elevations. Locally frequent in the higher Catskill mountains of Greene, Ulster and Delaware counties, and on many of the mountainous wooded slopes of the Adirondack and Lake George regions. Scarce in central New York. Reported from Monroe county and apparently very rare in the southern tier of counties.

14 *Thelypteris intermedia* (Muhl.) House, l.c.

American shield fern

Polypodium intermedium Muhl.; Willd. Sp. Pl. 5: 262. 1810

Dryopteris intermedia A. Gray, l.c.

D. spinulosa var. *intermedia* Underw. Native Ferns, ed. 4, 116. 1893

T. spinulosa var. *intermedia* Weatherby, Rhodora 21: 178. 1919

Moist woodlands, thickets and recently cleared banks. Common throughout most sections of the State.

Hybrids

Thelypteris intermedia × *marginalis*

D. intermedia × *marginalis* Benedict, Torr. Club Bul. 36: 45. 1909

ANCHISTEA Presl. Epim. Bot. 71. 1851

Anchistea virginica (L.) Presl., l.c.

Virginia chain fern

Blechnum virginicum L. Mant. 2: 307. 1771

Woodwardia virginica J. E. Smith, Mem. Acad. Turin, 5: 412. 1793

Blechnum carolinianum Walt. Fl. Car. 257. 1788

W. Banisteriana Michx. Fl. Bor. Am. 2: 263. 1803

In swamps, often in shallow water. Common in southern New York and locally abundant northward to Lake George and St Lawrence counties, outside of the Adirondacks, westward to Monroe, Wyoming and Erie counties. Not reported from the Catskill mountains.

LORINSERIA Presl. Epim. Bot. 72. 1851

Lorinseria areolata (L.) Presl., l.c. Net-veined chain fern

Acrostichum areolatum L. Sp. Pl. 1069. 1753

Woodwardia angustifolia J. E. Smith, l.c. 411

W. areolata Moore, Ind. Fil. xlv. 1857

In swamps and moist soil, frequently in shallow water. Frequent or locally abundant along the coastal region of southeastern New York. Not reported north of Westchester county.

PHYLLITIS (Gleditsch) Scop. Fl. Carn. 171. 1760

Scolopendrium Adans. Fam. Pl. 2: 20. 1763

Phyllitis Scolopendrium (L.) Newm. Hist. Ferns, ed. 2. 10. 1844
Hart's tongue

Asplenium Scolopendrium L. Sp. Pl. 1079. 1753

S. vulgare J. E. Smith, l.c. 421

S. Scolopendrium Karst. Deutsch. Fl. 278. 1880-83

On shaded limestone cliffs and depressions in Onondaga and Madison counties.

Found at Chittenango Falls, Madison county, by *William Cooper*, about 1830, which remained until 1857 the only known locality, although it was earlier discovered at Geddes, Onondaga county, by *Frederick Pursh*, on July 20, 1807. The Geddes locality was rediscovered by members of the Syracuse Botanical Club in 1879. In March 1866, *Lewis Foote* found it 5 miles southeast of Syracuse and in June of the same year *J. A. Paine jr* found it at "Little Lakes" (Green pond and White or Blue lake), 1 mile west of Jamesville. In July 1898 it was discovered at Perryville, Madison county by *Miss Murray Ledyard* of Cazenovia.

A full and interesting account of the occurrence of this fern in America is given by *William R. Maxon*, in *Fernwort Papers*, pp. 30-46. December 1909. See also: 18th Rep't Regents, 176. 1865. 19th Rep't, 79-80. 1866. Torr. Club Bul. 6: 345-347. 1879; 24: 217. 1897. Bul. N. Y. State Mus. 179: 43. 1915. A still later account is given by *Mabel R. Hunter* (*Am. Jour. Bot.* 9: 28-36. 1922).

The writers on British ferns recognize a very large number of forms of this species, some of which depart extraordinarily from the normal form. A few of these, at least, occur in New York State, but have never been fully investigated.

CAMPTOSORUS Link, Hort. Berol. 2: 69. 1833

1 **Camptosorus rhizophyllus** (L.) Link, l.c. Walking fern

Asplenium rhizophyllus L. Sp. Pl. 1078. 1753

On shaded rocks and cliffs, usually limestone. Unknown on Long Island and Staten Island. Local or rare from Westchester and Rockland counties northward and westward, but rather abundant on exposed limestone formations from the Catskill region northward to Lake George and westward across the State, and reported from

a few stations in the northern part of the State (Lake Bonaparte, Lewis county, *House*; Pierrepont, Fowler and Canton, St Lawrence county, *Mrs O. P. Phelps*). Apparently absent from the higher Adirondacks.

- 2 **Camptosorus pinnatifida** (Nutt.) Wood, Am. Bot. & Flor. 373. 1870. Pinnatifid spleenwort

Asplenium pinnatifidum Nutt. Gen. 2: 251. 1818

On rocks and ledges. Connecticut to Missouri and southward. Not definitely known from this State but to be looked for in the lower Hudson valley.

The genus *Camptosorus* is too closely allied to *Asplenium*. Its typical species is known to hybridize with *Asplenium*, and if *Phegopteris* is to be merged into *Thelypteris* (*Dryopteris*), it would seem to be logical to unite *Camptosorus* with *Asplenium*.

ASPLENIUM L. Sp. Pl. 1078. 1753

- 1 **Asplenium ebenoides** R. R. Scott, Jour. Roy. Hort. Soc. 87. 1866

On limestone rocks and ledges. Very rare from Saratoga county southward.

Wilton, Saratoga county, *Mrs O. P. Phelps*. Dutchess and Ulster counties, *Clarence Lown* (Torr. Club Bul. 7: 96. 1880; 36th Rep't N. Y. State Mus. 36. 1884). By experimentation *Margaret Slosson* (Torr. Club Bul. 29: 487-495. 1902) has proved that this fern is a hybrid between *Asplenium platyneuron* and *Camptosorus rhizophyllum*, and if the latter species is transferred to *Asplenium*, where it doubtless belongs, the plant should be called **Asplenium platyneuron** x **rhizophyllum**.

- 2 **Asplenium platyneuron** (L.) Oakes; D. C. Eaton, N. Am. Ferns 1: 24. 1878 Ebony spleenwort

Acrostichum platyneuron L. Sp. Pl. 1069. 1753

Asplenium ebenum Ait. Hort. Kew. 3: 462. 1789

On rocks and banks, usually in thin woods and sometimes in sandy soil.

Common in the southern part of the State and in the southern tier of counties. Frequent in the Hudson valley northward to Lake Champlain. Rare or largely absent from the Adirondack region. Frequent in Central New York and northward to St Lawrence county. Infrequent or rare in the western counties.

Var. **incisum** (E. C. Howe) Robinson, *Rhodora* 10: 30. 1908. *A. ebenum* var. *incisum* E. C. Howe, 22d Rep't N. Y. State Mus. 104. 1869. *A. ebenum* var. *Hortoniae* Davenp. *Rhodora* 3: 1. t. 22. 1901

Rare in Rensselaer, Washington and Herkimer counties.

3 **Asplenium Trichomanes** L. Sp. Pl. 1080. 1753

Maidenhair spleenwort

On rocks and ledges, preferring limestone. Not reported from the extreme western and southwestern counties of the State. Rare in Genesee and Monroe counties, becoming more frequent in the limestone region of central New York and eastward to the Hudson valley. Extremely rare and largely absent from the Adirondack region. Not reported from south of Dutchess and Rockland counties.

4 **Asplenium Ruta-muraria** L. Sp. Pl. 1081. 1753

Wall-rue spleenwort

On limestone rocks and cliffs. Rare and local.

Westchester and Rockland counties northward to Lake George, the Helderberg mountains of Albany county, cliffs of the Mohawk valley near Fonda, Palatine Bridge and Little Falls, Perryville and Chittenango Falls, Madison county and Jamesville and Apulia, Onondaga county. Not reported from west of Onondaga county, nor from the region covered by Clute's Flora of the Upper Susquehanna (but should be looked for in the upper Unadilla valley and the headwaters of the Susquehanna). Not reported from the Adirondacks.

Luerssen recognizes about 10 forms of this species as occurring in Europe, where the species shows the utmost diversity. A similar series of forms occurs in the United States, though probably not quite so extensive, but these have never received careful investigation. Christ has also published a long paper dealing with the many European forms.

5 **Asplenium montanum** Willd. Sp. Pl. 5: 342. 1810

Mountain spleenwort

On dry or moist rocks and cliffs, southern New York. Very rare.

Precipitous rocks on Lake Mohonk, Paltz Point, Ulster county, *H. Denslow* (Torr. Club Bul. 3: 2. 1872). Shawangunk mountains, Ulster county, *C. E. Smith* (l.c. 9: 83. 1882). Ulster, Sullivan and Delaware and Greene counties, *Taylor* (Fl. Vic. N. Y. 60. 1915).

6 **Asplenium Bradleyi** D. C. Eaton, Torr. Club Bul. 4: 11. 1873

Bradley's spleenwort

On rocks, preferring limestone, southern New York. Very rare.

Shawangunk mountains, Ulster county, *Clarence Lowen* (36th Rep't N. Y. State Mus. 40. 1884). Near Newburg, 1864, *D. C. Eaton* (Torr. Club Bul. 10: 6. 1883); *C. H. Peck* (33d Rep't N. Y. State Museum 18. 1880); *Taylor* (l. c. 60); *Pretz* (Am. Fern Jour. 1: 139. 1910).

ciliate, never glandular; spores yellow-brown, smooth or sparingly papillate.

The typical form has dimorphic fronds, the fertile coriaceous, contracted; sori at maturity confluent and covering the lower side of the fertile pinnules.

Var. **elatus** (Link) Butters, l.c. 191

Asplenium elatus Link, Fil. Sp. 94. 1841

This differs from the typical form in having the pinnae of the fertile fronds 1-2 dm long, pinnules 12-25 mm long, pinnatifid, sori several on each of the lower segments, often horseshoe shaped; pinnules of the sterile fronds oblong lanceolate, strongly toothed or pinnatifid and somewhat acute.

Not uncommon, especially in shaded swamps and wet woods.

Var. **rubellum** (Gilbert) Butters, l.c. 193

Asplenium Filix-foemina rubellum Gilbert, List N. Am. Pterid. 35. 1901

Fronds not dimorphic, coriaceous nor contracted; pinnules diminishing in size regularly toward the tip of the pinnae and standing at a wide angle to the rachis of the pinna, often connected by a membranous wing along the rachis of the pinna, teeth of the segments of the pinnules obtuse; pinnules lanceolate, subacute.

Common in shaded situations throughout the State. Butters (l.c. 193) regards this as the "fundamental biological type, from which all the other varieties and forms have been derived." The stems are not always reddish, nor is the rachis of the pinna always winged.

The following three forms are found occasionally throughout the State without definite geographical range.

Athyrium angustum, forma **elegans** (Gilbert) Butters, l.c. 196

Athyrium angustum, forma **laciniatum** Butters, l.c. 195

Athyrium angustum, forma **confertum** Butters, l.c. 195

4 **Athyrium asplenioides** (Michx.) Desv. Mem. Soc. Linn. Paris 6: 266. 1827 Southern lady fern

Nephrodium asplenioides Michx. Fl. Bor. Am. 2: 268. 1803

Asplenium Athyrium Spreng. Anleit. 3: 113. 1804

In low woods, swamps and marshy places. Frequent on Staten Island and occasional on Long Island and south of the Hudson Highlands.

Differs from the preceding by the rhizome creeping; not densely covered with the persistent bases of the fronds; scales of the stipes very few, seldom persistent, rarely over 4 mm long, their cells relatively broad and with pale walls; fronds widest near the base; indusia ciliate, the cilia ending in glands; spores nigrescent, reticulated or wrinkled. The typical form has pinnules under 15 mm long, oblong to oblong-linear and obtuse.

Forma **subtripinnatum** Butters, l.c. 190; with pinnules about 2 cm long, triangular lanceolate, pinnatifid with oblong obtuse segments, occurs from Massachusetts southward and may be looked for in southern New York.

ADIANTUM L. Sp. Pl. 1094. 1753

Adiantum pedatum L., l.c. 1095 Maiden-hair fern

In rich or moist woods and wooded slopes. Common in most sections of the State northward and westward, but rare on the coastal plain of Long Island.

PTERIDIUM Scop. Fl. Carn. 169. 1760

Pteridium latiusculum (Desv.) Maxon, Am. Fern Jour. 9: 43.
1919 Common brake, braken

Pteris latiuscula Desv. Mem. Soc. Linn. Paris 6: 303. 1827

Pteris aquilina, of American reports. Not L.

In sterile or sandy soil in fields and thickets, rarely in woodlands. Very common in most sections of the State, but rather scarce in some of the limestone regions.

Var. **pseudocaudatum** (Clute) Maxon, l.c. 44 (as subsp.)

Pteris aquilina var. *pseudocaudatum* Clute, Fern Bul. 8: 39. 1900

Common on the coastal plain of Long Island and on Staten Island.

CRYPTOGRAMMA R. Br. App. Frankl. Jour. 767. 1823

Cryptogramma Stelleri (S. G. Gmel.) Prantl. in Engler's Bot.
Jahrb. 3: 413. 1882 Slender cliff brake

Pteris Stelleri S. G. Gmel. Nov. Com. Acad. Petrop. 12: 519. pl. 12. f. 1.
1768

Pellaea gracilis Hook. Sp. Fil. 138. 1858

Pteris gracilis Michx. Fl. Bor. Am. 2: 262. 1803

Pellaea Stelleri Baker, in Hook. & Baker, Syn. Fil. 453. 1868

On rocks and cliffs, preferring limestone. Rare.

Head of Plattekill Clove, Ulster county, *Mrs Charles Beach* (N. Y. State Mus. Bul. 150: 39. 1912). Helderberg mountains, Albany county; cliffs along the Mohawk valley; Trenton Falls; Boonville, Oneida county and along the Black river near Watertown, Jefferson county. Taberg, Oneida county, Perryville and Chittenango Falls, Madison county; Jamesville and Skaneateles lake, Onondaga county. Yates county, *Sartwell*. Not reported from west of Yates county. Rare in the Lake George region and in the eastern Adirondacks (Ausable Chasm, *Hazen*; Edmonds ponds and Minerva, Essex county, *Peck*). Pitcairn, St Lawrence county, *Mrs O. P. Phelps*.

PELLAEA Link, Fil. Hort. Berol. 59. 1841

Pellaea atropurpurea (L.) Link, l.c. Purple-stemmed cliff brake

Pteris atropurpurea L. Sp. Pl. 1076. 1753

On rocks and cliffs, preferring limestone. Locally abundant.

Lake George region south to Orange, Dutchess, Greene and Ulster counties. Frequent on the cliffs of the Mohawk valley; Trenton Falls, Chittenango Falls; Jamesville; Penn Yan (*Sartwell*), Crooked lake and near Ithaca. Not reported from the Adirondack mountains or from the Chemung, Susquehanna or Tioga valleys. Near Le Roy, Genesee county, *Barter*. Sylvia lake, Fowler, St Lawrence county, *Mrs O. P. Phelps*.

Pellaea glabella Mett.; Kuhn, *Linnaea* 36: 1869, is reported by Butters (*Am. Fern Jour.* 7: 77-87. 1917) from several localities in western Vermont and may be looked for in the eastern Adirondack region and about Lake George.

CHEILANTHES Sw. Syn. Fil. 126. 1806

Cheilanthes lanosa (Michx.) Watt, *Trimen's Jour. Bot.* 12: 48. 1874 Hairy lip fern

Nephrodium lanosum Michx. *Fl. Bor. Am.* 2: 270. 1803

Cheilanthes vestita Sw., l.c. 128

On rocks. Rare in southeastern New York.

Formerly frequent on Manhattan Island (*Torr. Club Bul.* 7: 114. 1880; 15: 211. 1888; *Taylor*, *Fl. Vic. N. Y.* 61. 1915). Two miles below Poughkeepsie on the east side of the Hudson river, *Clarence Lown* (36th Rep't N. Y. State Mus. 40. 1884).

POLYPODIUM (Tourn.) L. Sp. Pl. 1082. 1753

Polypodium virginianum L., l.c. 1085 American polypody

P. vulgare var. *virginianum* Eaton, *Man. ed.* 2, 373. 1818

P. vulgare, β . *americanum* Hook. *Fl. Bor. Am.* 2: 258. 1840

P. vulgare of N. Y. Reports, Not L. (cf. *Fernald*, *Rhodora* 24: 125-142. 1922)

P. virginianum is said to differ from the *P. vulgare* of Europe by having a softer and more spongy, not sweet, rootstock, with darker scales of different shape and structure; midribs of pinnae straight (commonly curving at the base in *P. vulgare*), and sori nearly marginal (commonly median in *P. vulgare*).

On rocks and rocky banks, less commonly in open woods, or rarely on fallen logs or about the bases of old trees in swamps. Common in most sections of the State.

Fernald (l.c.) lists the following forms, several of which have been found in this State, and all of which may be looked for.

Forma *acuminatum* (Gilbert) *Fernald*, l.c. 141 (*P. vulgare acuminatum* Gilbert, *Fern Bul.* 10: 13. 1902. *P. vulgare* var. *angustum* Am. Auth., not Muell. *P. vulgare* var. *attenuatum* Am. Auth., not Milde)

Forma *elongatum* (Jewell) *Fernald*, l.c. (*P. vulgare* f. *elongata* Jewell, *Maine Woods xxx.* No. 31: 3. 1908)

Forma *brachypterum* (Ridlon) *Fernald*, l.c. (*P. vulgare* f. *rotundatum* Ridlon, *Am. Fern Jour.* 11: 48. t. 1. 1921, not Milde. *P. vulgare* f. *brachypterum* Ridlon, l.c. 122)

Forma **subsimplex** Fernald, l.c. (Described from New Hampshire)

Forma **deltoideum** (Gilbert) Fernald, l.c. (*vulgaris* formae *deltoideum* and *hastatum* Gilbert, Fern Bul. 14: 37. 1906. *P. vulgare* f. *auritum* Buchheister, Am. Bot. 5: 56. f. 3. 1903, not Willd.)

Forma **bipinnatifidum** Fernald, l.c. (*P. vulgare* var. *cambricum* of N. Y. Reports, not Willd.)

Forma **chondroides** Fernald, l.c. 142 (*P. vulgare* var. *bifidomultifidum* Gilbert, Fern Bul. 14: 39. 1906, not Druery)

Forma **alato-multifidum** (Gilbert) Fernald, l.c. (*P. vulgare* var. *alato-multifidum* Gilbert, l.c. 14: 105. 1906)

Forma **Churchiae** (Gilbert) Fernald, l.c. (*P. vulgare* var. *Churchiae* Gilbert, Fern Bul. 14: 39. 1906)

The gray polypody, or tree fern (***Polypodium polypodioides***) (L.) Watt, has been found on driftwood on the Staten Island shore, although its natural range is from Virginia southward.

Family 5 **MARSILEACEAE** R. Br. Nov. Holl. 1: 166. 1810
Marsilea family

MARSILEA L. Sp. Pl. 1099. 1753

Marsilea quadrifolia L., l.c. European marsilea, pepperwort

Native of Europe and Asia. Supposed to be indigenous at Bantam lake, Connecticut, and introduced into ponds and slow streams in various parts of the eastern United States, especially on Staten Island and in the vicinity of New York City.

Family 6 **SALVINIACEAE** Reichenb. Consp. 30. 1828

SALVINIA Adans. Fam. Pl. 2: 15. 1763

Salvinia natans (L.) Hoffm., widely distributed in Europe and Asia, and supposed to be indigenous in Perry county, Missouri, was reported by Pursh in 1814 from central New York, but if rightly so, the locality has never been rediscovered. As shown by Weatherby (Am. Fern Jour. 11: 50-53. 1921), the record for Staten Island was based upon planted specimens of **Salvinia auriculata** var. **Olfersiana** Klotzsch., which did not survive long.

AZOLLA Lam. Encycl. 1: 343. 1783

Azolla caroliniana Willd. Sp. Pl. 5: 541. 1810 Carolina azolla

Floating on quiet water. Locally abundant in central New York and along Lake Ontario.

Frequent in most of the quiet waters of the bays and inlets of Lake Ontario from Henderson Harbor to Niagara river. Black creek near Oneida lake, *H. A. Warne* (28th Rep't N. Y. State Mus. 85. 1876). Staten Island, where probably introduced, *Henshaw* (Torr. Club Bul. 14: 35. 1887; 22: 462. 1895).

Family 7 **EQUISETACEAE** Michx. Fl. Bor. Am. 2: 281. 1803
Horsetail family

EQUISETUM (Tourn.) L. Sp. Pl. 1061. 1753

- 1 **Equisetum arvense** L., l.c. Field horsetail

In loose or sandy soil, especially along roadsides, railroads and recently disturbed soil. Very common and assuming several diverse forms.

- 2 **Equisetum pratense** Ehrh. Hanov. Mag. 22: 138. 1784
Thicket or meadow horsetail

E. umbrosum J. G. F. Mey. in Willd. Enum. 1065. 1809

In sandy, usually alluvial soil, along streams. Apparently rare or at least overlooked. The only collection from New York State in the Gray herbarium (according to Fernald) is from Potsdam, *Mrs O. P. Phelps* 1368. 1915

- 3 **Equisetum silvaticum** L., l.c. Wood horsetail, bottlebrush
E. montanum Raf. Am. Mo. Mag. 2: 206. 1818

In moist sandy woods and thickets. Locally abundant in most sections of the State, especially northward. Our form of the species belongs to the var. **pauciramosum** Milde (Mon. Equiset. 292. t. 9. f. 2. 1865).

- 4 **Equisetum palustre** L., l.c. Marsh horsetail

Locally distributed across the northern part of the State.

Rare in shallow water of the bays and inlets along the shore of Lake Ontario (Proc. Rochester Acad. 3: 131. 1896; 5: 35. 1910). Near Buffalo, *Clinton* (Gray's Man. ed. 4, Add. ci. 1863; 19th Rep't N. Y. State Museum 203. 1866). Lake Bonaparte, Lewis county, *Peck* (42d Rep't N. Y. State Mus. 37. 1889). Panther lake, near Constantia, Oswego county, *House*. Shore of Lake Ontario near Woodville, Jefferson county, *House* 8161.

Not reported from southern New York. A variety **ramosissimum** Peck, is described from Strawberry Island, near Buffalo, *Clinton* (25th Rep't N. Y. State Mus. 107. 1873).

- 5 **Equisetum litorale** Kuehl.; Rupr. Beitr. Pflanzenk. Russ. Reich.
4: 91. 1845 Shore horsetail, joint grass

On sandy river and lake shores. Local. Regarded by Doctor Schaffner as probably not a good species. Ascherson & Graebner (Syn. Mitteleurop. Fl. 1: 136. 1896) regard it as a hybrid between *E. arvense* and *E. fluviatile* (*E. Heleocharis*).

Oswego, *J. H. Wibbe* (Torr. Club Bul. 10: 46. 1883). Oswego, *C. S. Sheldon*. Knight's Island, Lake Champlain, *Morong* (Torr. Club Bul. 14: 52. 1887). Bonaparte swamp, Lewis county, *House*. Oneida lake shore in Madison and Oneida counties, *F. V. Coville*

(42d Rep't N. Y. State Mus. 16. 1889); *House*, (*Torrey* 3: 167. 1903); *Haberer* (N. Y. State Mus. Bul. 54: 960. 1902). Milde has described several varieties of this variable plant.

6 *Equisetum fluviatile* L. Sp. Pl. 1062. 1753 Swamp horsetail

E. limosum L., l.c. (unbranched form).

E. Helecharis Ehrh. Hanov. Mag. 286. 1783

E. uliginosum Muhl. in Willd. Sp. Pl. 5: 4. 1810

In swamps and along the borders of ponds, lakes and slow streams.

Frequent in the southern counties of the State. Infrequent from Wayne county westward (*Proc. Rochester Acad.* 3: 131. 1896). Yates county, *Sartwell*. Rare or local in central New York and in the Mohawk valley: Jordanville, Herkimer county, *House*; Albany, *Peck*; Pecksport, Madison county, *House* 5518; Ithaca, *Sheldon*, *Summers*, *Hayes*. Oswego, *Wibbe*, *Sheldon*. Frequent across the northern part of the State: Lisbon & Pierrepont, St Lawrence county, *Mrs. O. P. Phelps*; Adams; Jefferson county, *Peck*; Fourth lake, Herkimer county, *House* 6753; Bonaparte swamp, Lewis county, *House* 6258. Very slender unbranched form at Newcomb, *House* 7338 and at Kasoag, Oswego county, *House*. Stout unbranched form (*E. limosum* L.) Newcomb, Essex county, *House* 7339.

7 *Equisetum laevigatum* A. Br., Engelm. in Am. Jour. Sci. 46: 87. 1844 Smooth scouring rush

E. hyemale intermedium A. A. Eaton, Fern Bul. 10: 120. 1902

Along streams, ponds and rivers, especially in sandy or clayey soil. Infrequent from Albany and Oneida counties westward and southward.

Karner, Albany county, *Peck*. Sand dunes at head of Oneida lake, Oneida county, *Haberer* 1950, June 22, 1904. Sandy shores of Oneida lake, Sylvan Beach, Oneida county, *House* 5450.

Forma **proliferum** *Haberer*, N. Y. State Mus. Bul. 243-244: 47. 1923, with a few short fertile or sterile branches at the upper nodes. Head of Oneida lake, *Haberer* 1950c.

8 *Equisetum praealtum* Raf. Fl. Ludov. 13. 1817

Tall scouring rush

E. hyemale, of N. Y. Reports, mainly

Moist thickets, banks and fields or along shores of ponds, streams and lakes. Very common and exceedingly variable in size and habit.

9 *Equisetum variegatum* Schleich. Cat. Pl. Helvet. 27. 1807

Variegated scouring rush

E. trachyodon A. Br. Flora 21: 160. 1838; 22: 305. 1839

E. variegatum Nelsoni A. A. Eaton Fern Bul. 12: 41. 1904

Moist or wet banks and in thickets. Local and variable. Several varieties and forms have been described.

Oriskany creek, Owasco lake and shore of Lake Ontario, Paine (Cat. Pl. Oneida Co. 175. 1865). Frequent on the shores of Lake Ontario (Proc. Rochester Acad. 3: 131. 1896). Greene, Chenango county, *Coville* (42d Rep't N. Y. State Mus. 37. 1889). LeRayville, Jefferson county, *Peck*. St Regis river, Stockholm, St Lawrence county, *Mrs O. P. Phelps*. Herkimer, *J. V. Haberer* (Rhodora 7: 106. 1905, the so-called var. *Nelsoni*).

10 *Equisetum scirpoides* Michx. Fl. Bor. Am. 2: 281. 1803

Sedge-like horsetail rush

On moist or wet wooded banks or in wooded swamps. Frequent or common northward across the State outside of the higher Adirondacks. Rare or local in the southern counties of the State.

Family 8 **LYCOPODIACEAE** Michx. Fl. Bor. Am. 2: 281. 1803
Club-moss family

LYCOPODIUM L. Sp. Pl. 1100. 1753

1 *Lycopodium Selago* L., l.c. 1102 Fir club-moss

On rocks. Mountain summits of northern New York. Rare.

Mount Marcy and Whiteface mountain, *Doctor Emmons* and *Professor James Hall* (Torrey, Fl. N. Y. 2: 508. 1843). Mount Marcy, *Kneiskern* (in Sartwell Herbarium). Also reported from the higher summits of the Catskill mountains. Collected on Mount McIntyre and at Indian Pass by Doctor Peck (N. Y. State Mus. Bul. 28: 152. 1899). Reported from Colton, St Lawrence county, by Mrs O. P. Phelps.

2 *Lycopodium lucidulum* Michx. Fl. Bor. Am. 2: 284. 1803

Shining club moss

In cool moist woods and mossy swamps. Common northward. Frequent in the western part of the State. Local or rare southward to Dutchess, Ulster, Greene and Delaware counties, and near Baldwins, Long Island, *Taylor* (Fl. Vic. N. Y. 65. 1915).

3 *Lycopodium inundatum* L. Sp. Pl. 1102. 1753

Bog or marsh club moss

In sandy bogs and depressions, sphagnum bogs, and on boggy or marshy shores. Essex, Hamilton, Herkimer, St Lawrence, Lewis and Oswego counties, south to Onondaga, Madison, Oneida, Saratoga, Albany, Rensselaer, Columbia and Tioga counties. Not reported from west of Onondaga county nor from the Catskill mountains or south of the Hudson highlands.

Var. *Bigelovii* Tuckerm. Am. Jour. Sci. 45: 47, 48. 1843 (*L. adpressum* (Chapm.) Lloyd & Underwood; *L. Chapmani* Underw. *L. carolinianum* Bigel., not L.). In New York this

appears to be a well-marked variety with taller fertile branches and the sporophylls more incurved or appressed. Frequent on moist banks and borders of swamps on Long Island and Staten Island.

Babylon, *Clute*. Forbell's Landing, *Miss Timmerman*. Riverhead, *Peck*. Oceanside, *House*. Staten Island, *Burnham*.

Southward this variety seems to merge into *L. alopecuroides*, but intermediate forms have not been found in this State (Stone, Pl. of Southern N. J. 41), and Tuckerman, l.c. make *L. alopecuroides*, along with *Bigelovii*, varieties of *L. inundatum*. On Cape Cod and in Nova Scotia, intermediate forms between typical *L. inundatum* and the var. *adpressum* (or *Bigelovii*) are mentioned by Fernald (*Rhodora* 23: 100. 1921).

4 *Lycopodium alopecuroides* L. Sp. Pl. 1102. 1753

Foxtail club-moss

In pine-barren swamps and depressions. Southern New York. Rare.

Babylon, *Clute*. West Hampton, *F. W. Kobbe* (*Torrey* 4: 68. 1904). Southampton, *Clute* (*Fern Bul.* 13: 88). Staten Island, *Clute* (*Fern Bul.* 9: 9); *Burnham* (*Torrey* 13: 252. 1913).

5 *Lycopodium carolinianum* L. Sp. Pl. 1104. 1753

Carolina ground-pine

In pine-barren swamps, Ronkonkoma, Long Island, *W. C. Ferguson*. New Jersey has been previously regarded as the northern limit of this species.

6 *Lycopodium obscurum* L., l.c.

Ground-pine

L. dendroideum Michx. Fl. Bor. Am. 2: 282. 1803

In moist woods. Common in most sections of the State north of the coastal plain region.

The typical form of the species has the two upper and the two lower ranks of leaves smaller and appressed, the lateral ones incurved-spreading, and the var. *dendroideum* (Michx.) D. C. Eaton, the more common form in this State, has the leaves equal, and the branches scarcely or not at all dorsiventral.

7 *Lycopodium annotinum* L., l.c. 1103

Stiff club-moss

In woods and thickets, commonly in rather dry soil. Common throughout the Adirondack and Catskill regions. Elsewhere rather local, southward to Chenango, Broome and Tioga counties, westward to Oswego and Monroe counties.

The typical form has leaves mostly spreading or reflexed, those of the fruiting branches 5.5–11 mm long, lanceolate, linear-oblong or oblanceolate, thinnish and distantly serrate.

Var. *acrifolium* Fernald, *Rhodora* 17: 124. 1915. Leaves linear or lance-attenuate, firm and thickish, entire or obscurely serrate, but spreading or reflexed as in the typical form.

Var. **pungens** (LaPylaie) Desv. Mem. Soc. Linn. Paris 6: 182. 1827. Leaves strongly ascending or appressed, those of the fruiting branches 2.5–6 mm long, linear or lance-attenuate, thick, entire and dorsally convex. Common at higher altitudes.

8 **Lycopodium sabinaefolium** Willd. Sp. Pl. 5: 20. 1810

Cedar-like club-moss

Known only from near Hinkley, valley of the West Canada creek, Herkimer county, *J. V. Haberer*, No. 2550, October 28, 1911.

The Haberer specimens in the state herbarium have peduncles from 6 to 9 cm long, and correspond therefore to the var. **sharonense** Blake, *Rhodora* 20: 60. 1918.

Var. **sitchense** (Rupr.) Fernald, *Rhodora* 25: 166. 1923

L. sitchense Rupr. Beitr. Pflanzenk. Russ. Reich. 3: 30. 1845

This variety is distinguished from the typical species only by its lower and more compact habit and the very short peduncles. Known only from an elevated marsh near "Nipple Top" on the slope of Mount Marcy, *Peck* (27th Rep't 90. 1877, as *L. sabinaefolium*).

9 **Lycopodium clavatum** L. Sp. Pl. 1101. 1753

Ground-pine, running-pine, club-moss

In woods and thickets, often on shaded banks. Common in most sections of the State. The forma **sterilis** House, N. Y. State Mus. Bul. 243–244: 19. 1923, with elongated sterile peduncles at Lebanon Springs, Columbia county, *A. K. Harrison*.

Var. **brevispicatum** Peck, 54th Rep't 162. 1901, on Wallface mountain, *Peck*, and Black Bear mountain, near Inlet, Hamilton county, *House*.

Var. **megastachyon** Fernald & Bissell, *Rhodora* 12: 50–55. 1910, at several localities in the Adirondack region and near New London, Oneida county, *House*.

10 **Lycopodium complanatum** L. Sp. 1104. 1753

Trailing Christmas-green, ground-pine

In dry or moist woods and thickets. Common or frequent. Rare on the coastal plain. The typical form of the species is not reported from this State but may be looked for in the Adirondacks or northern counties. Our form of the species is var. **flabelliforme** Fernald, *Rhodora* 3: 280. 1901 (*L. flabelliforme* Blanchard, *Rhodora* 13: 168. 1911).

Var. **flabelliforme**, forma **Wibbei** (Haberer), *House*, l.c. 42
L. complanatum var. *Wibbei* Haberer, *Rhodora* 6: 102. 1904, with large solitary strobiles, is reported from near Utica.

11 **Lycopodium Habereri** House, N. Y. State Mus. Bul. 176: 36. 1915

Haberer's ground-pine

Known only from Oneida county, *J. V. Haberer*, 1907. Closely related to the preceding species.

12 *Lycopodium tristachyum* Pursh, Fl. Am. Sept. 653. 1814
Ground-pine

L. Chamaecyparissus A. Br., in Doell, Rhein. Fl. 36. 1843

L. complanatum var. *sabinacfolium* A. Gray, Man. ed. 2, 604. 1856

L. complanatum var. *Chamaecyparissus* Milde, Fil. Eu. & Atl. 257. 1867

In dry open woods or clearings, often in sandy soil. Locally abundant across the State northward, south to Ulster county, and west to Schuyler county. Doubtless locally elsewhere westward. Reported from Long Island.

North Elba and Ray Brook, Essex county, *Peck* (53d Rep't 838. 1900; Mus. Bul. 28: 153. 1899). Alder Creek, Oneida county, *Gilbert* (*Torrey* 1: 5, 117. 1901). Newcomb, Essex county, *House*. Sylvan Beach, Oneida county, *House*, *Haberer*. Trenton, Remsen and Forestport, Oneida county, *Haberer*. Wilmurt, Hinkley, Grant, Ohio and Grand View, Herkimer county, *Haberer*. New London, Oneida county, *House*. Norfolk, St Lawrence county, *Mrs O. P. Phelps*. Wilton, Saratoga county, *Phelps*. Watkins, Schuyler county, *Sheldon*. Sandaken, Ulster county, *Mary F. Miller*. Cold Spring Harbor, Long Island, *Lloyd* (*Torr*. Club Bul. 27: 563. 1899). Caroga, Fulton county, *Peck*.

Family 9 **SELAGINELLACEAE** Underw. Native Ferns, 103.
1881

Selaginella family

SELAGINELLA Beauv. Aetheog. 101. 1805

1 *Selaginella rupestris* (L.) Spring, in Mart. Fl. Bras. 1: 118.
1840 Rock selaginella, festoon-pine

Lycopodium rupestre L. Sp. Pl. 1101. 1753

Dry rocks or sometimes in sandy soil. Local.

Orient, Long Island, *Burnham & Latham* (*Torrey* 14: 230. 1914). Frequent on rocky exposures in the Hudson valley and up the Mohawk valley to Little Falls. Thousand Island Park, *Maxon*. Alexandria Bay, *Paine* (Cat. Pl. Oneida Co. 181. 1865). Cliffs of the Niagara river, *Day* (Pl. Buffalo 92. 1883). Penfield, Monroe county, *Baxter* (Proc. Rochester Acad. 3: 134. 1896). Morristown and Dekalb, St Lawrence county. *Mrs O. P. Phelps*. Moxon mountain, Warren county, *House*.

2 *Selaginella apoda* (L.) Fernald, Rhodora 17: 68. 1915
Creeping selaginella

Lycopodium apodum L. Sp. Pl. 1105. 1753

S. apus Spring, l.c. 119

In moist shaded places, often among grasses or mosses, or borders of ponds and lakes. Common in central New York, and reported eastward to Herkimer county, northward to St Lawrence county,

Phelps; southward to Chenango county, *Brown*; Cortland county, *Dudley*, and westward across the State to Niagara Falls, *Carey* (Sartwell herbarium).

Not reported from the southern tier of counties, from the Adirondack or Lake George regions, nor from the Hudson valley or the Catskill mountains.

Family 10 ISOETACEAE Underw. Native Ferns, ed. 1, 103. 1881

Quillwort family

ISOETES L. Sp. Pl. 1100. 1753

1 *Isoetes macrospora* Durieu, Bul. Soc. Bot. Fr. 11: 101. 1864
Lake quillwort

I. lacustris Engelm. Trans. St Louis Acad. Sci. 4: 377. 1882, and other Amer. Authors, not L.

I. Harveyi Eaton, Fernwort Papers 11. 1900

I. heterospora Eaton, l.c. 8

I. Tuckermanni var. *Harveyi* Clute, Fern Allies 226. 1905

I. Tuckermanni var. *heterospora* Clute, l.c.

Shallow water of ponds and lakes. Rare.

Pond in the Catskills, *E. Durand* (Clinton, in 19th Rep't Regents, 76. 1866), *Schweinitz* (according to Durieu and Englemann). Third lake, Herkimer county, *Underwood*. Clear lake, south of Elk lake. Essex county, *Britton*.

2 *Isoetes Tuckermanni* A. Br. in Gray, Man. ed. 5, 676. 1867
Tuckerman's quillwort

In sandy ponds chiefly along the coastal region of eastern Canada and New England. *Taylor* (Fl. Vic. N. Y. 68. 1915) reports it from Lake Ronkonkoma, Long Island and near Peekskill, Westchester county. *Pfeiffer* (Ann. Mo. Bot. Gard. Vol. IX, No. 2) does not cite any New York State records, so that the occurrence of the species in this State is doubtful.

3 *Isoetes saccharata* Engelm.; Gray, Man. ed. 6, 676. 1867; var. *Amesii* A. A. Eaton, Rhodora 5: 278. 1903
Reported from Peekskill, Westchester county (*Leggett*).

4 *Isoetes Braunii* Dur. Bul. Soc. Bot. France 11: 101. 1864
Braun's quillwort

I. echinospora var. *Braunii* Engelm.; l.c. ed. 5, 676. 1867

I. echinospora vars. *Boottii* and *muricata* Engelm., l.c.

I. muricata Dur., l.c. 101

I. ambigua A. Br.; Engelm. Trans. St Louis Acad. Sci. 4: 380. 1882

Shallow water in lakes, rivers and ponds.

Niagara river near Buffalo; at mouth of Little Bay of Strawberry Island and along head of Goat Island, 1865, *G. W. Clinton* (19th

Rep't Regents 76. 1866). Poestenkill, Rensselaer county, *Howe* (22d Rep't N. Y. State Mus. 104. 1869). Pond near Sam's Point, Ulster county, *Britton* (Torr. Club Bul. 10: 106. 1883). Rare on Long Island, *Taylor*. Canadice lake, Livingston county, *Baxter*. Oneida lake, *Gilbert*, *Paine*. Outlet of Lake Luzerne, Warren county, *Clinton*, 1867. Hart lake and Avalanche lake, Essex county, *E. P. Killip*. Camp Riverdale, Hamilton county, *Povah*. Lake Placid, *Britton* (N. Y. State Mus. Bul. 28: 157. 1899). Pfeiffer (Ann. Mo. Bot. Gard. 9: 173. 1922) cites several additional New York localities, including Lake Tear on Mount Marcy. Eaton's collection from Lake Luzerne has been referred to var. *muricata* (Dur.) Engelm. (*Gilbert*, Fern Flora of New York, Fern Bull. 11: 103. 1903), but is doubtless a form of this variable species.

Forma *robusta* (Engelm.) Pfeiffer, Ann. Mo. Bot. Gard. 9: 173. 1922 (*I. echinospora* var. *robusta* Engelm. Trans. St Louis Acad. Sci. 4: 380. 1882. *I. Gravesii* A. A. Eaton, Fernwort Papers 14. 1900. *I. valida* var. *Gravesii* Clute, Fern Allies 343. 1905). The type of this is from northern end of Isle La Motte, Lake Champlain, *Pringle*, and since it has been reported southward into Connecticut, should be expected in eastern New York.

5 *Isoetes riparia* Engelm.; A. Br. Flora (Regensb. Bot. Zeit.) 29: 178. 1846 — Am. Journ. Arts & Sci. 3: 52. 1847

In shallow water from Maine westward to Belleville, Ontario, southward through New England to New Jersey, eastern Pennsylvania and Delaware.

The typical species not recorded from New York.

Var. *canadensis* Engelm. Trans. St Louis Acad. Sci. 4: 383. 1882
Dodge's quillwort

I. Dodgei A. A. Eaton, Fern Bul. 6: 6. 1898

I. canadensis Eaton, Proc. U. S. Nat. Mus. 23: 650. 1901

I. canadensis var. *Robbinsii* Eaton, Rhodora 5: 7. 1903

I. Dodgei var. *Robbinsii* Eaton, Rhodora 10: 42. 1908

On firm muddy soil, borders of ponds and streams. Rare.

Tyrol lake, Dutchess county, *Taylor* (Fl. Vic. N. Y. 69. 1915).

6 *Isoetes Eatonii* Dodge, Ferns & Fern Allies of New England, 39. 1896
Eaton's quillwort

I. valida Clute, Fern Allies 236, 260. 1905

On muddy flats or borders of ponds and streams. Rare.

The largest known species of the genus, with 30 to 200 leaves varying in length from 40 to 70 cm. Reported from Carmel, Dutchess county, *Taylor* (Fl. Vic. N. Y. 69. 1915). Neither this record nor the one for *I. riparia* var. *canadensis*, are cited by Pfeiffer (Monograph of the Isoetaceae, Ann. Mo. Bot. Gard. IX, Pt. 2).

7 **Isoetes Engelmanni** A. Br. Flora 29: 178. 1846

Engelmann's quillwort

In ponds and ditches, immersed in mud, rarely in slow-running water. Infrequent.

Peekskill, *Lcggett* (fide Engelmann). Lake Ronkonkoma, *Harper*. Staten Island and the Bronx, *Taylor* (Fl. Vic. N. Y. 69. 1915). Locke pond, *Dudley* (36th Rep't N. Y. State Mus. 40. 1884). Apalachin, and Binghamton, *Clute* (Fl. Upper Susquehanna 142. 1898). The var. *gracilis* Engelm. (Gray, Man. ed. 5, 676. 1867) is merely an attenuated form. Pfeiffer (l.c. 204) gives several additional records for New York (Cortland, Tompkins, Cayuga and Chenango counties).

Our knowledge of the distribution of the species of *Isoetes* in New York seems to be extremely limited. Collectors should examine carefully all likely localities throughout Columbia, Dutchess, Putnam, and Westchester counties, in the Catskill mountains and in the counties from Rockland westward.

Division 2 **SPERMATOPHYTA**

Class 1 **Gymnospermae**

Family 1 **PINACEAE** Lindl. Nat. Syst. ed. 2, 313. 1836

Pine family

PINUS (Tourn.) L. Sp. Pl. 1000. 1753

Sect. **Strobus** Engelm

Strobus Opiz, Lotus 4: 94. 1854

1 **Pinus Strobus** L., l.c. 1001

White pine

Strobus weymouthiana Opiz, l.c.

Strobus Strobus Small, Fl. SE. U. S. 29. 1903

In woods. Formerly comprising a large percentage of the forests throughout the State north of the coastal plain and of quite general distribution especially northward and in the Adirondacks up to 2500 feet altitude. Infrequent or rare on southern Long Island.

Section **Pinaster** Engelm

2 **Pinus resinosa** Ait. Hort. Kew. 3: 367. 1789

Canadian, red or Norway pine

P. sylvestris, β *Norvegica* Cast. Viag. negli Stati Uniti 2: 313. 1790

P. rubra Michx. f. Hist. Arb. Am. 1: 45. t. 1. 1810

In woods, chiefly in the northern part of the State.

The best stands have long since been cut for lumber, but the tree is still locally abundant in some portions of the Adirondack region and across the northern part of the State. Local southward to the Helderberg mountains, *Pearson*, *Peck*; the Catskill mountains, *Peck*,

Taylor, and reported from Inwood, New York City, *LeRoy* (Torr. Club Bul. 3: 45. 1872); westward to the pine plains of Rome, *Fasey*; Yates county, *Sartwell*; and Letchworth Park, *Nash* (Torreya 7: 212. 1907).

3 *Pinus Banksiana* Lamb. Pinus 1: pl. 3. 1803

Labrador, gray or jack pine

P. sylvestris, var. *divaricata* Ait. Hort. Kew. 3: 366. 1789

P. divaricata DuMont de Courset, Bot. Cult. 3: 760. 1802 (according to Sargent), Gordon, Pinetum 163. 1858

P. rupestris Michx. f. Hist. Arb. Am. 1: 49. t. 2. 1810

P. hudsonia Poir. in Lam. Encycl. 5: 339. 1804

In sandy or barren soil, northern New York. Rare.

Banks of the Ausable river near Upper Jay, Wadham's Mills, Mount Discovery and near Keeseville, *Peck* (52d Rep't N. Y. State Mus. 653. 1899). Fernald (*Rhodora* 21: 45-54. 1919) describes the range and soil requirements of this species.

4 *Pinus virginiana* Mill. Gard. Dict. ed. 8, No. 9. 1768

Scrub pine

P. inops Ait. Hort. Kew. 3: 367. 1789

P. sylvestris var. *novo-caesariensis* Cast., l.c. 313

In sandy soil, western and southern parts of Staten Island.

5 *Pinus echinata* Mill. Gard. Dict. ed. 8, No. 12. 1768

Yellow, spruce or short-leaf pine

P. virginiana var. *echinata* DuRoi, Obs. Bot. 44. 1771

P. squarrosa Walt. Fl. Car. 237. 1788

P. Taeda var. *variabilis* Ait., l.c. 368

P. Taeda var. *echinata* Cast., l.c. 312

P. mitis Michx. Fl. Bor. Am. 2: 204. 1803

P. variabilis Lamb. Pinus 1: t. 14. 1803

In sandy, rocky or barren soil. Westchester county southward.

At present this species is unknown north of Staten Island (*Hollick & Britton*, Torr. Club Bul. 22: 462. 1895, and near the mouth of the Croton river, Westchester county, *Taylor* Fl. Vic. N. Y. 71. 1915), but was reported from near Albany by *Michaux*, a report cited by *Torrey* (Fl. N. Y. 2: 229. 1843).

6 *Pinus rigida* Mill. Gard. Dict. ed. 8, No. 10. 1768

Pitch, torch or candlewood pine

P. Taeda var. *rigida* Ait., l.c. 368

P. Fraseri Lodd. Cat. 50. 1836

In dry, sandy or rocky soil, generally distributed throughout the State below 1500 feet altitude, but usually absent or rare in sections with deep, rich or calcareous soil, and from moist wooded slopes and mountains. Very common on Long Island and Staten Island and on the hills up the Hudson valley, the sandy plains between Albany

and Schenectady, west of Lake Champlain, about Oneida lake, Lewis county and on the Ontario lowlands from Hammond, St Lawrence county, *Mrs O. P. Phelps*, westward to Monroe county.

- 7 **Pinus sylvestris** L. Sp. Pl. 1001. 1753 Scotch pine
Common in cultivation and extensively used in forest plantations. Natural reproduction sometimes occurs and will doubtless become common as existing young plantations approach maturity.

LARIX (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754

- 1 **Larix laricina** (DuRoi) Koch, Dendrol. 2¹: 263. 1873
Tamarack, American larch

Pinus laricina DuRoi, Obs. Bot. 49. 1771
Pinus pendula Ait. Hort. Kew. 3: 369. 1789
L. americana Michx. Fl. Bor. Am. 2: 203. 1803
L. pendula Salisb. Trans. Linn. Soc. 8: 313. 1808
L. Fraseri Curt. ex Gordon, Pinetum 129. 1858

Common in swamps throughout the northern part of the State. Common or frequent in the central and western counties especially on calcareous soils. Rare in the Hudson valley. Not reported from Staten Island, but reported as formerly found at Wading River, Long Island.

The var. **incurva** Peck (47th Rep't N. Y. State Mus. 33. 34. 1894) at Highland lake, Sullivan county, and the so-called var. **pendula**, at Indian Lake, *Peck* (27th Rep't N. Y. State Mus. 113. 1877).

- 2 **Larix Larix** (L.) Sudw. Gard. & For. 2: 166. 1891
European larch

Pinus Larix L. Sp. Pl. 1101. 1753
L. decidua Mill. Gard. Dict. ed. 8. No. 1. 1768
L. europea DC. Fl. Franc. 3: 277. 1778

Common in cultivation. Sometimes used in forest planting. Not recorded as well established anywhere, but may be expected to become self-perpetuating in some of the plantations.

PICEA Link, Abh. Acad. Wiss. Berlin 1827: 179. 1827-30

- 1 **Picea glauca** (Moench) Voss, Mitt. Deutsch. Dendrol. Ges. 16: 93. 1907
White or pine spruce

Pinus canadensis L. Sp. Pl. ed. 2, 1421. 1763. (excl syn. Gronov.)
Pinus glauca Moench, Verz. 73. 1785
Abies canadensis Mill. Gard. Dict. ed. 8, No. 4. 1768
Pinus alba Michx. Fl. Bor. Am. 2: 207. 1803. Not Miller
Picea alba Link, Linnaea 15: 519. 1841
Picea canadensis B. S. P., Prel. Cat. N. Y. 71. 1888. Not Link, 1841

Moist soil in woods. Northern part of the State. Common or frequent in the northern counties.

Southern localities are: Frankfort Hill, Herkimer county, south of the Mohawk river, *Paine* (Cat. Pl. Oneida Co. 130. 1865). Cambridge, Washington county, *Burnham* (N. Y. State Mus. Bul. 167: 36. 1913). Generally, however, a rare tree south of the Adirondacks.

2 *Picea mariana* (Mill.) B. S. P., Prel. Cat. N. Y. 71. 1888

Black or swamp spruce

Abies mariana Mill. Gard. Dict. ed. 8, No. 5. 1768

Pinus nigra Ait. Hort. Kew. 3: 370. 1789

Abies denticulata Michx. Fl. Bor. Am. 2: 206. 1803

Pinus americana Gaertn. Fr. 2: 60. t. 91. 1788

Picea nigra Link, Linnaea 15: 520. 1841

Picea brevifolia Peck, Spruces of the Adirondacks 13. 1897

Swamps, bogs and mountain summits. Common in the northern part of the State and in bogs throughout the central counties. Less frequent or rare in the southern tier of counties and in the western part of the State. Reported southward to Dutchess, Sullivan and Delaware counties. The stunted, short-leaved form with very small cones, common in the bogs and on the mountains of northern New York was described by Peck as *Picea brevifolia*. It is made a variety by Rehder (*Rhodora* 9: 109. 1907). The dwarfed, sub-alpine form is described by Peck as var. *semiprostrata* (forma *semiprostrata* Blake).

3 *Picea rubens* Sargent, Silva 12: 33. 1898

Red spruce

Pinus rubra Lamb. Pinus 1: 43. pl. 28. 1803. Not Mill

Picea rubra Dietr. Fl. Berl. 2: 795. 1824

Picea mariana Peck, State Mus. Bul. 28: 127. 1899

A common forest tree throughout northern New York, and locally abundant southward to central New York and the Catskill mountains. Elsewhere local or rare. Rare or absent south of the Hudson Highlands and on Staten Island and Long Island. Not reported from the western counties of the State.

4 *Picea Abies* (L.) Karst. Pharm.-med Bot. 324. f. 155. 1881

Norway spruce

Pinus Abies L. Sp. Pl. 1002. 1753

Picea vulgaris Link, in Abh. Berl. Acad. 180. 1827

Pinus picea DuRoi, Obs. Bot. 37. 1771

Abies picea Mill. Gard. Dict. ed. 8, No. 2. 1768

Picea excelsa Link, Linnaea 15: 517. 1841

Native of Europe. Common in cultivation and extensively used in forest planting. Not reported, however, as a naturalized species.

TSUGA Carr. Trait. Conif. 185. 1855

Tsuga canadensis (L.) Carr., l.c. 189

Hemlock

Pinus canadensis L. Sp. Pl. ed. 2, 1421. 1763 (as to syn. Gronovius only)

Abies americana Mill. Gard. Dict. ed. 8, No. 6. 1768

Pinus americana DuRoi, Obs. Bot. 39. 1771
Pinus-Abies americana Marsh. Arb. Am. 103. 1785
Abies canadensis Michx. Fl. Bor. Am. 2: 206. 1803
Picea canadensis Link, Linnaea 15: 524. 1841
Tsuga americana Farwell, Torr. Club Bul. 41: 629. 1914

Frequent or common in nearly all sections of the State except Long Island and Staten Island, where only a few scattered individuals are now found.

There has been much discussion regarding the correct name for the hemlock. See Farwell (Torr. Club Bul. 41: 621-629. 1914; Rhodora 21: 108. 1919), Rehder (Rhodora 17: 59. 1915), and Tidestrom (Rhodora 20: 185-188. 1918). Following Tidestrom, whose arguments appear to be the most logical, the name *Tsuga canadensis* may well be retained.

ABIES (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754

1 **Abies balsamea** (L.) Mill. Gard. Dict. ed. 8, No. 3. 1768

Balsam fir

Pinus balsamea L. Sp. Pl. 1002. 1753
Picea balsamea Loudon, Arb. Brit. 4: 2339. f. 2240-2242. 1844
Abies balsamifera Michx. Fl. Bor. Am. 2: 207. 1803
Picea Fraseri Emerson, Trees & Shrubs of Mass. 88. 1846

In low or moist, cool forests. Common throughout the Adirondack region, the northern counties and the higher Catskills. Elsewhere locally abundant in deep swamps. Not native on the coastal plain, the southern range being the higher elevations of Dutchess, Ulster, Delaware and Otsego counties, westward to Onondaga, Ontario, *Baxter*, and Livingston counties, *Baxter & Dewing*.

2 **Abies alba** Mill. Gard. Dict. ed. 8, No. 1. 1768

European or silver fir

Pinus picea L. Sp. Pl. 1001. 1753
Abies vulgaris Poir. in Lam. Dict. 6: 514. 1804
Abies pectinata (Lam.) DC. in Lam. Fl. Fr. ed. 3, 3: 276. 1805
Abies excelsa Link, Abh. Akad. Berl. 1827: 182. 1830
Abies picea Lindley, in Penny Cycl. 1: 29. 1833. Not Mill.

Common in cultivation. Occasionally used in forest planting, but not reported as an established species. Native of Europe.

THUJA L. Sp. Pl. 1002. 1753.

Thuja occidentalis L., l.c.

Arbor vitae, white cedar

In wet soil and along the banks of streams and lakes.

Common northward, often forming dense, almost impenetrable forests in northern swamps, known as "cedar swamps", reaching its best development in calcareous areas and regions of basic soils (Fernald, Rhodora 21: 54-67. 1919). Rare southward to Westchester, Putnam and Orange counties, westward to Lake Erie.

CHAMAECYPARIS Spach, Hist. Veg. 11: 329. 1842**Chamaecyparis thyoides** (L.) BSP. Prel. Cat. N. Y. 71. 1888

Southern white cedar

Cupressus thyoides L. Sp. Pl. 1003. 1753*Chamaecyparis sphaeroidea* Spach, l.c. 331

In swamps along the coast. Infrequent. Rare inland to Putnam and Orange counties.

Merrick, Rockville Center and between Jamaica South and Aqueduct, Long Island, *Bicknell* (*Torreya* 8: 27-28. 1908); *Nichols* (*Rhodora* 9: 74. 1907). Staten Island and in Orange, Westchester and Putnam counties, *Taylor* (Fl. Vic. N. Y. 74. 1915). Near Rockaway, Hempstead, Babylon, Islip, Long Island and Peach pond, Putnam county, *Mead* (*Torreya*, Fl. N. Y. 2: 233. 1843).

JUNIPERUS L. Sp. Pl. 1038. 1753Subgenus **Oxycedrus** (Spach)1 **Juniperus communis** L., l.c. 1040 Erect juniper

On dry hills. Unknown on Long Island and Staten Island. Frequent or locally abundant northward, but uncommon or rare in the western part of the State.

Passing into the var. *depressa* Pursh (Fl. Am. Sept. 646. 1814) *J. depressa* Raf. (Am. Mo. Mag. 2: 207. 1818), common on all of the exposed summits of the Adirondack region below 4000 feet altitude, and in the Catskills, and locally on exposed ridges, rocks, bogs, and barren soil in many sections of the State northward and westward. Local on Long Island (*J. Sibirica* of Taylor's Fl. Vic. N. Y. 75. 1915).

2 **Juniperus sibirica** Burgsdorf, Anleit. 2: 124. 1787

Alpine juniper

J. canadensis Burgsdorf, l.c.*J. communis* var. *montana* Ait. Hort. Kew 3: 414. 1788*J. nana* Willd. Berl. Baumz. 159. 1796*J. alpina* S. F. Gray, Nat. Arr. Br. Pl. 2: 226. 1821*J. communis* var. *sibirica* Rydb. Contr. U. S. Nat. Herb. 3: 533. 1896

A very much depressed plant, differing from *J. communis* var. *depressa*, by its shorter, relatively broader, curved, subappressed leaves. Summit of Mount McIntyre and Mount Wright, *Peck* (Bul. N. Y. State Mus. 28: 129. 1899, as *J. nana*).

Subgenus **Sabina** (Haller)**Sabina** (Haller) Mill. Gard. Dict. 4th abr. ed. 1754

3 *Juniperus virginiana* L., l.c. 1039 Red cedar

J. caroliniana Mill. Gard. Dict. ed. 8, No. 4, 1768

J. Sabina Hook. Fl. Bor. Am. 2: 166. 1833. Not L.

Sabina virginiana Antoine, Cupress. Gatt. 61. pl. 83-84. 1857

In dry soil. Very common in the Hudson valley. Less frequent south of the moraine on Long Island. Abundant in the Mohawk valley. Uncommon northward outside of the Adirondacks (Rossie, St Lawrence county, *Mrs O. P. Phelps*), and rare in the southwestern counties of the State, and uncommon or rare westward to Lake Erie.

4 *Juniperus horizontalis* Moench, Meth. 699. 1794
Creeping juniper, shrubby red cedar

J. prostrata Pers. Syn. 2: 632. 1807

J. Sabina Michx. Fl. Bor. Am. 2: 246. 1803. Not L.

J. Sabina var. *procumbens* Pursh, Fl. Am. Sept. 647. 1814

J. repens Nutt. Gen. 2: 245. 1818

J. hudsonica Forbes, Pinetum Woburn. 208. 1839

Sabina prostrata Antoine, l.c. 57. pl. 79

J. virginica var. *prostrata* Torr. Fl. N. Y. 2: 235. 1843

Sabina horizontalis Rydb. Torr. Club Bul. 39: 100. 1912

On banks and in swamps and bogs. Somewhat local or rare.

Chemung county, *Kneiskern*; banks of the Genesee river, *Bradley*, and Bergen swamp (Paine, Cat. Pl. Oneida Co. 130. 1865). Bergen swamp, *Peck* (State Mus. Bul. 139: 24. 1910). Caledonia, Livingston county (Proc. Roch. Acad. 3: 130. 1896). Formerly in Lodi swamp, Syracuse, *House*. Baldwinsville, Onondaga county, *Beauchamp*.

Family 2 **TAXACEAE** Lindl. Nat. Syst. ed. 2, 316. 1836
Yew family

TAXUS (Tourn.) L. Sp. Pl. 1040. 1753

Taxus canadensis Marsh. Arb. Am. 151. 1785

American yew, ground hemlock

T. baccata var. *minor* Michx. Fl. Bor. Am. 2: 245. 1803

T. minor Britton, Torr. Club Mem. 5: 19. 1893

In cool, moist woods and swamps. Common northward. Not known on Long Island or Staten Island. Reported from Verplanck's Point, Westchester county, *F. J. H. Merrill* (Torr. Club Bul. 13: 6. 1886). Formerly on New York Island (Torrey, Fl. N. Y. 2: 236. 1843). Rare or local in the southern tier of counties bordering on Pennsylvania. Easily killed by ground fires in the woods which are doubtless responsible for its disappearance from many sections of the State where it was formerly common.

Class 2 **ANGIOSPERMAE**Subclass 1 **Monocotyledones**

Family 1 **TYPHACEAE** J. St. Hil. Expos. Fam. 1: 60. 1805
Cat-tail family

TYPHA (Tourn.) L. Sp. Pl. 971. 1753

1 **Typha angustifolia** L. Sp. Pl. 971. 1753

Narrow-leaved cat-tail

T. spiralis Raf. Atl. Jour. 1: 148. 1832

T. gracilis Raf. New Fl. 2: 91. 1837

T. latifolia var. *angustifolia* Wood, Class-book, 367. 1845

In marshes, chiefly along the coast. Locally common inland in Montgomery and Chenango counties and in the Ontario lowlands from St Lawrence to Madison, Onondaga, Seneca and Niagara counties (var. *longispicata* Peck, 47th Rep't, 162. Bot. ed. 36. 1894).

The hybrid; **T. angustifolia** × **T. latifolia** Figert, Deutsche Bot. Monatschrift 8: 55. 1890 (*T. glauca* Godr. Fl. Lorr. 2: 20. 1843), described from Europe, has not been reported from this country.

2 **Typha latifolia** L., l.c.

Common cat-tail

T. elatior, & *T. crassa* Raf. Atl. Jour. 1: 148. 1832

T. palustris Bub. Fl. Pyren. 4: 25. 1901

In marshes, swamps and shallow water. Common in most sections of the State.

Family 2 **SPARGANIACEAE** Agardh. Theor. Syst. Pl. 13. 1858
Bur-reed family

SPARGANIUM L. Sp. Pl. 971. 1753*

1 **Sparganium eurycarpum** Engelm.: Gray, Man. ed. 2, 430. 1857
Broad-fruited bur-reed

S. ramosum Pursh, Fl. Am. Sept. 33. 1814. Not Huds. 1778

S. erectum Wood, Classbook, ed. 2, 523. 1847. Not L.

Marshy places and shallow water along streams and ponds. Frequent northward and westward across the State. Local or rare southward and on Long Island.

Outlet of Canaderaga lake, Exter, Otsego county, *Paine* (Cat. Pl. Oneida Co. 131. 1865). Oneida lake, *House*. Gardiner's Island, *Burnham & Latham* (*Torrey* 14: 230. 1914). Frequent (*Proc. Rochester Acad.* 3: 112. 1896). Oswego, *House*. Seneca lake, *Peck*. Buffalo, *G. W. Clinton*. Grass river, Canton and Macomb, St Lawrence county, *Mrs O. P. Phelps*.

*For key to the species of *Sparganium*, see Fernald (*Rhodora* 24: 31-32. 1922).

2 *Sparganium androcladum* (Engelm.) Morong, Torr. Club Bul.
15: 78. 1888 **Branching bur-reed**

S. simplex var. *androcladum* Engelm.; A. Gray, Man. ed. 5, 481. 1867
S. americanum var. *androcladum* Fernald & Eames, Rhodora 9: 87. 1907
S. lucidum Fernald & Eames, l.c.

In bogs, marshes and shallow water. Frequent or common across the State chiefly south of the Adirondacks.

Greenport, Long Island, *Burnham & Latham* (Torreya 14: 230. 1914). Chemung county, *Lucy* (Clute, Fl. Upper Susquehanna 115. 1898). Shore of Lake Ontario at Greece, Monroe county, *Florence Beckwith* (Proc. Rochester Acad. 5: 31. 1910). Sandlake, Rensselaer county, *Peck*. Sylvan Beach, Oneida county, *House*. Pecksport, Madison county, *House*. Oswego, *Sheldon*. North Greenbush, *Peck*. Fourth lake, Herkimer county, *House*. Jamaica, *Bicknell* and Cypress Hills, Long Island, *Taylor* (Torreya 9: 207. 1909, as *S. lucidum*).

3 *Sparganium americanum* Nutt. Gen. 2: 203. 1818
Nuttall's bur-reed

S. simplex Torr. Fl. N. Y. 2: 249. 1843. Not Huds.
S. simplex var. *Nuttallii* Engelm.; A. Gray, Man. ed. 5, 481. 1867
S. simplex americanum Farwell, Ann. Rep't Mich. Acad. Sci. 6: 202. 1904

In low or wet places and margins of ponds and lakes. Frequent in most sections of the State except the higher Adirondacks and Catskills.

Staten Island, *Britton & Hollick*. Greenport, Long Island, *Burnham & Latham* (l.c.). Sandlake, Rensselaer county, *Peck*. Morehouseville, Hamilton county, *Peck*. Albany, *Peck*. Oneida county, *Gray*. Lake Bonaparte, Lewis county, *Peck*. Harrisville, *Peck*.

4 *Sparganium simplex* Huds. Fl. Angl. ed. 2, 401. 1778
Simple-stemmed bur-reed

S. erectum, β . L. Sp. Pl. 971. 1753

In lakes and streams. Frequent or locally common.

Frequent (Proc. Rochester Acad. 3: 112. 1896). Ausable river, North Elba, Essex county, *Peck* (N. Y. State Mus. Bul. 28: 135. 1899). Upper Amster brook, Mohawk Hill, Lewis county, *Bendrat* (Torreya 13: 46. 1913). Shandaken, Ulster county, *Mary F. Miller*, No. 255.

5 *Sparganium chlorocarpum* Rydb. N. Am. Flora 17: 8. 1909
Green-fruited bur-reed

S. diversifolium Fernald & Eames, Rhodora 9: 86. 1907. Not Graebner, or most American Authors (cf. Fernald, Rhodora 24: 29. 1922)

In bogs and along the boggy or marshy shores of streams, lakes and ponds. Infrequent or rare, but widely distributed.

Shushan, Washington county, *Burnham* (N. Y. State Mus. Bul. 139: 30. 1910). Southold, Long Island, *Burnham & Latham* (Torreya 14: 230. 1914). Orient Point, Long Island, *Latham*. Chase's lake, Fulton county, *A. Olsson*, No. 154. Catskill mountains, *G. W. Clinton*. Grass river, Canton, St Lawrence county, *Mrs O. P. Phelps*.

Var. *acaule* (Beeby) Fernald, *Rhodora* 24: 29. 1922

S. simplex var. *acaule* Beeby; Macoun, Cat. Can. Pl. 5: 367. 1890

S. acaule Rydb. N. Am. Flora 17: 8. 1909

S. diversifolium var. *acaule* Fernald & Eames, *Rhodora* 8: 88. 1907

In swamps, low meadows and on muddy shores. Local, but widely distributed.

Greene county and at Valley Stream, Long Island, *Bicknell* (Taylor, Fl. Vic. N. Y. 77. 1915). Sandlake, Rensselaer county, *Peck*. Morehouseville, Hamilton county, *Peck*. Caroga, Fulton county, *C. P. Alexander*, No. 273. West Fort Ann, Washington county, *Burnham*. Grass river, Canton, and Oswegatchie river, Dekalb, St Lawrence county, *Mrs O. P. Phelps*.

6 *Sparganium angustifolium* Michx. Fl. For. Am. 2: 189. 1803 Narrow-leaved bur-reed

S. natans angustifolium Pursh, Fl. Am. Sept. 34. 1814

S. simplex angustifolium Torr. Fl. N. Y. 2: 249. 1843

S. natans Beck, Bot. 380. 1833

S. natans affine A. Gray, Man. ed. 2, 430. 1856

S. affine Schnitzl. Typhac. 27. 1845.—Macoun, Cat. Can. Pl. 4: 7. 1888

S. simplex Fernald & Eames, *Rhodora* 9: 86. 1907 (in part)

In slow streams and ponds. Frequent northward. Rare in the southern and western sections of the State.

Lake Placid, *Peck* (N. Y. State Mus. Bul. 139: 30. 1910). Edmonds ponds, Essex county, *Peck* (34th Rep't N. Y. State Mus. 55. 1881). Lake Sanford, Essex county, *Peck*. Lake Harris, Essex county, *House*. Harris Bay, Lake George, *Hulst*. White Lake, Oneida county, *Haberer*, No. 2863. Catskill mountains, *Taylor* (Fl. Vic. N. Y. 78. 1915).

7 *Sparganium fluctuans* (Morong) Robinson, *Rhodora* 7: 60. 1905 Floating bur-reed

S. simplex fluitans Engelm.; A. Gray, Man. ed. 5, 481. 1867

S. androcladum fluctuans Morong, Torr. Club Bul. 15: 78. 1888

In ponds and cold lakes, chiefly in the northern part of the State.

Sandlake, Rensselaer county, and Big Moose, Herkimer county, *Peck* (N. Y. State Mus. Bul. 105: 28. 1906). Lake Placid, *Peck* (N. Y. State Mus. Bul. 28: 135. 1899). Lake Harris, Newcomb, Essex county, *House*.

- 8 **Sparganium minimum** Hill, Britt. Herb. 507. 1756.—Fries,
Summa Veg. Scand. 2: 560. 1849 Small bur-reed

S. natans Oeder, Fl. Dan. 2: 5. 1764. Not L. 1753

S. natans, β . L. Fl. Suec. ed. 2, 323. 1755

S. angustifolium A. Gray, Man. ed. 2, 430. 1856. Not Michx. 1803

In ponds and streams. Frequent in the Adirondack region. Rare and local southward and westward in the State.

Near Cortland, *Wiegand* (Torr. Club Bul. 21: 176. 1894). Irondequoit, Monroe county, *Booth* (Proc. Rochester Acad. 3: 112. 1896). Newcomb, Essex county, *Peck* (30th Rep't N. Y. State Mus. 69. 1878). Colby pond, Franklin county, *Peck* (34th Rep't, 55. 1881). Cold marshes of North Woods, Herkimer county, *Paine*. Catskill mountains, *G. W. Clinton*. Patton's Mills, Washington county, *Burnham*.

- Family 3 **ZANNICHELLIACEAE** Dumort. Anal. Fam. 61.
1829 Pondweed family

POTAMOGETON L. Sp. Pl. 126. 1753

Peltopsis Raf. Jour. Phys. 89: 101. 1819

Spirillus & *Groenlandica* J. Gay, Comptes Rendus, 1854

- 1 **Potamogeton natans** L., l.c. Common floating pondweed

In ponds and streams. Common across the State north of the Hudson highlands. Not reported from Long Island or Staten Island.

- 2 **Potamogeton Oakesianus** Robbins; A. Gray, Man. ed. 5, 485
1867 Oakes's pondweed

In still water of ponds and streams. Infrequent or rare from Essex county southward to Long Island. Not reported westward in the State.

Lake Placid, *Peck* (N. Y. State Mus. Bul. 28: 136. 1899). Sandlake, Rensselaer county, *Peck* (22d Rep't N. Y. State Mus. 54. 1869). Peekskill, *LeRoy* (Torr. Club Bul. 3: 53. 1872). Wading river, Long Island, *E. S. Miller* (31st Rep't N. Y. State Mus. 53. 1879). Common on Long Island and at Otis summit, Greene county, *Taylor* (Fl. Vic. N. Y. 81. 1915). Racquette river, *Peck*. Lake Sanford, Essex county, *Peck*. Big Moose inlet, *Peck*.

- 3 **Potamogeton Vaseyi** Robbins; A. Gray, Man. ed. 5, 485. 1867
Vasey's pondweed

In ponds and lakes. Rare.

Thompson's lake, Albany county, *Peck* (47th Rep't N. Y. State Mus. 17. 1894). Greenwood lake, Orange county, *Morong*. Mouth of Salmon river, Oswego county, and Oswegatchie, St Lawrence county, *Fernald & Wiegand* (Rhodora 25: 206. 1923)

4 *Potamogeton diversifolius* Raf. Med. Rep. II. 5: 354. 1808
Rafinesque's pondweed

P. hybridus Michx. Fl. Bor. Am. 1: 101. 1803. Not Thuill. 1790

In ponds, lakes and slow streams. Infrequent from the Adirondacks southward to Long Island. Not reported westward in the State.

Long Island and Staten Island and at Riverdale, New York City, *Bicknell* (Taylor, Fl. Vic. N. Y. 81. 1915). Sandlake, Rensselaer county, *Peck*. Lebanon Springs, *A. K. Harrison*. Fisher's Island, *Zabriskie*. Tupper lake, Franklin county, *Peck*.

Two subspecies or varieties are described by Morong, viz.; *multidenticulatus* and *trichophyllus* (Torr. Club Mem. 3: Pt. 2, 48, 49. 1893).

5 *Potamogeton dimorphus* Raf. Am. Mo. Mag. 1: 358. 1817
Spiral pondweed

P. diversifolius Barton, Fl. Phila. Prodr. 27. 1815. Not Raf.

P. Spirillus Tuckerm. Am. Jour. Sci. II. 6: 228. 1848

In ponds and ditches. Frequent or common especially in the eastern and southeastern portions of the State. Less common westward.

Hemlock and Conesus lakes, *E. J. Hill* (Torr. Club Bul. 10: 92. 1883). Hemlock and Canadice lakes, *Peck* (49th Rep't N. Y. State Mus. Bot. ed. 28. 1896). Lower Saranac lake, *Peck*; and Cayuga lake, Tompkins county, *Dudley* (40th Rep't N. Y. State Mus. 58. 1888). Lansingburg and Sandlake, Rensselaer county, *Peck*. Catskill, *G. W. Clinton*. Canton, Dekalb and Clifton, St Lawrence county, *Mrs O. P. Phelps*.

6 *Potamogeton epihydrus* Raf. Red. Rep II. 5: 354. 1808
Nuttall's pondweed

P. natans Michx. Fl. Bor. Am. 1: 101. 1803. Not L. 1753

P. Nuttallii Cham. & Schlecht. Linnaea 2: 226. pl. 6. f. 25. 1827

P. pennsylvanicus Cham. & Schlecht., l.c.

P. pumilus Wulfg.; R. & S. Syst. Veg. Mant. 3: 354. 1827

P. Claytoni Tuckerm. Am. Jour. Sci. 45: 354. 1843

In ponds and streams throughout most sections of the State. Common. Two well marked varieties occur: Var. *ramosus* (*Peck*) House, comb. nov. (*P. Nuttallii* var. *ramosus* *Peck* 47th Rep't N. Y. State Mus. 162. 1894), described from the Oswegatchie river; and Var. *cayugensis* (*Wiegand*) A. Benn. (*P. Nuttallii* var. *cayugensis* *Wiegand*, Rhodora 2: 102. 1900), common in ponds in Oswego county, Cayuga lake and in ponds and streams near Ithaca.

- 7 *Potamogeton amplifolius* Tuckerm. Am. Jour. Sci. II. 6: 225. 1848 Large-leaved pondweed

In ponds and lakes. Frequent northward and westward in the State.

Clove lake, Staten Island, *Taylor* (Fl. Vic. N. Y. 82. 1915). Warner's lake, Albany county, *Peck* (35th Rep't N. Y. State Mus. p. 146. 1884). Cascade lake, *Peck* (N. Y. State Mus. Bul. 28: 136. 1899). North Elba, *Peck* (22d Rep't N. Y. State Mus. 54. 1869). Goodrich lake, Delaware county, *Hoy*; Oxford, Chenango county, *Coville* (Clute, Fl. Upper Susquehanna 118. 1898). Oatka creek, Silver, Hemlock and Conesus lakes, *E. J. Hill* (Torr. Club Bul. 10: 92. 1883). Irondequoit bay, Long pond and in Wayne county (Proc. Rochester Acad. 3: 112. 1896). Oswegatchie river, *Peck*. Resort, Sodus bay, *House*. Warwick, *Peck*. Paddy lake, Oswego county, *Sheldon*. Carpenter's pond, Onondaga county, *House*. Oneida county, *Gray*. Oneida lake, *House*. Lake Pleasant, Hamilton county, *House*.

- 8 *Potamogeton angustifolius* Berch. & Presl. Rostlin. 2 Alismac. 19. 1821 Ziz's pondweed

P. heterophyllus elongatus M. & K.; Roehling, Deut. Fl. ed. 3, 1: 845. 1823

P. Zizii Roth, Enum. Pl. Germ. 1: 531. 1827

P. lucens var. *heterophyllus* Fries, Novit. Fl. Suec. ed. 2, 34. 1828

P. lucens var. *connecticutensis* Robbins, in A. Gray, Man. ed. 5. 488. 1867

In lakes, ponds and slow streams. Common northward across the State. Not reported from south of Westchester and Rockland counties.

Stissing pond, Pine Plains, Dutchess county, *Hoysradt*, *Peck*. Rockland lake, *Morong*. Albany, *Peck*. Fall creek, *Dudley*. Oneida lake, *Peck*. Racquette river, *Peck*. Oneida and Seneca lakes, *Morong*.

- 9 *Potamogeton gramineus* L. var. *graminifolius* Fries, Novit. Fl. Suec. ed. 2, 36. 1828 Various-leaved pondweed

P. heterophyllus Morong, Torr. Club Mem. 3²: 23. 1893

P. heterophyllus var. *graminifolius* Morong, l.c. 24

In lakes, ponds and streams. Common throughout the State except on Long Island and Staten Island. An extremely variable species.

This has been referred in recent floras to *P. heterophyllus* Scherb. (Spicil. Fl. Lips. 21. 1771), now regarded as the same as *P. gramineus* L., of Europe, and which in its typical form is almost unknown in America, according to Fernald.

Forma *longipedunculatus* (Merat) comb. nov.

P. longipedunculatus Merat, Fl. Paris 494. 1812

P. heterophyllus f. *longipedunculatus* Morong, l.c. 24

In deep water in Lake Erie and Seneca lake (*Morong*). Chenango river (*Coville*),

Forma myriophyllus (Robbins) comb. nov.

P. heterophyllus var. *myriophyllus* Robbins, l.c. 487

P. heterophyllus f. *myriophyllus* Morong, l.c. 24

Not reported from New York.

Forma maximus (Morong) comb. nov.

P. heterophyllus var. *maximus* Morong, Torr. Club Bul. 13: 155. 1886

P. heterophyllus f. *maximus* Morong, Torr. Club Mem. 3²: 25. 1893

Pine Plains, Dutchess county, *Hoysradt* (Morong)

10 Potamogeton alpinus Balbis, Misc. 13. 1804

Northern pondweed

P. rufescens Schrad.; Cham. Abnot. Fl. Berol. 5. 1815

P. obrutus Wood, Classbook, 178. 1845

In ponds and lakes. Infrequent across the northern part of the State.

Lake Champlain, *Morong*. Edmonds ponds, *Peck* (34th Rep't N. Y. State Mus. 41. 1881). Cascade lake, *Peck* (State Mus. Bul. 28: 136. 1899). Niagara river above the falls, *Morong*.

11 Potamogeton Faxonii Morong, Torr. Club. Mem. 3²: 22. 1893

Faxon's pondweed

Described from Lake Champlain, at Ferrisburg, Vermont, and to be looked for on the New York side of the lake. Morong suggests that if it is a hybrid species it is probably a hybrid between *P. alpinus* and *P. lonchitis*.

12 Potamogeton lonchitis Tuckerman, Am. Jour. Sci. II. 6: 226.

1848

Long-leaved pondweed

P. americanus Cham. & Schlecht. Linnaea 2: 226. 1827. Not R. & S. Syst. 3: 509. 1818

P. natans var. *fluitans* Torr. Fl. N. Y. 2: 254. 1843

P. rectifolius A. Benn. Jour. Bot. 40: 147. 1902

In ponds, lakes and slow streams. Common or frequent northward in the State. Not reported from Long Island or from Staten Island.

Var. *noveboracensis* Morong, l.c. is reported as occasional.

13 Potamogeton pulcher Tuckerm. Am. Jour. Sci. 45: 38. 1843

Spotted pondweed

P. lucens var. *fluitans* Robbins, in A. Gray, Man. ed. 2, 435. 1856

In ponds and pools. Local or rare.

Riverhead, Long Island, *E. S. Miller* (Torr. Club Bul. 6: 258. 1878). Long Island, Staten Island, Rockland and Dutchess counties, *Taylor* (Fl. Vic. N. Y. 83. 1915).

14 *Potamogeton lucens* L. Sp. Pl. 126. 1753 Shining pondweed

In ponds and lakes. Local or rare.

Pine Plains, Dutchess county, *Taylor* (l.c.). Oneida and Cayuga lakes, *Peck* (47th Rep't N. Y. State Mus. 37. 1894). Oatka creek, *E. J. Hill* (Torr. Club Bul. 10: 92. 1883). Frequent in Monroe county (Proc. Rochester Acad. 3: 114. 1896). Warner's lake, Albany county, *Peck*.

15 *Potamogeton crispus* L. Sp. Pl. 126. 1753

Curly pondweed or muckweed

In fresh or salt water. Local. Native of Europe and supposed to be naturalized in America.

New York City and Cold Spring Harbor, *Taylor* (Fl. Vic. N. Y. 84. 1915). Chemung river, *Lucy* (Clute, Fl. Upper Susquehanna 118. 1898). Keuka lake, Yates county, *S. H. Wright* (32d Rep't N. Y. State Mus. 24. 1880). Long pond, Monroe county, *Searing* (Proc. Rochester Acad. 3: 114. 1896). Seneca river at Baldwinsville, *S. M. Rust*. Seneca lake, *Peck*.

16 *Potamogeton praelongus* Wulf. in Roem. Arch. Bot. 3: 331. 1805 White-stemmed pondweed

In ponds, lakes and slow streams. Somewhat local or rare across the northern and western sections of the State, south to Dutchess and Chenango counties.

Alexandria Bay, *Paine* (Cat. 133. 1865). Lake Placid, *Peck* (N. Y. State Mus. Bul. 28: 137. 1899). Canandaigua lake, *Morong*. Oneida lake outlet, *Peck*. Wayne county (Proc. Rochester Acad. 3: 114. 1896). Maltowah lake and Chenango river, *Coville*. Pine Plains, Dutchess county, *Taylor* (Fl. Vic. N. Y. 83. 1915).

17 *Potamogeton Richardsonii* (A. Benn.) Rydb. Torr. Club Bul. 32: 599. 1905 Richardson's pondweed

P. perfoliatus var. *Richardsonii* A. Benn. Jour. Bot. 27: 25. 1889

P. perfoliatus var. *lanceolatus* Robbins, in A. Gray, Man. ed. 5, 488. 1867

In quiet water, chiefly of ponds, lakes and slow streams. Frequent or common across the State south to the Hudson highlands. Most of the material usually referred to *P. perfoliatus* L. appears to belong here.

The seventh edition of Gray's Manual gives the following key for separating *P. perfoliatus*, *P. Richardsonii* and *P. bupleuroides*:

Leaves undulate or crisped, with 3-7 prominent nerves; fruit 3.5-4.5 mm long.

Stipules 1-2 cm long, persisting as shreds; leaves lance-attenuate

P. Richardsonii

Stipules short and inconspicuous; leaves from suborbicular to oblong-lanceolate

P. perfoliatus

Leaves flat, scarcely crisped, with 1 prominent nerve; fruit 2.5-3.2 mm long; stipules when developed, short and inconspicuous

P. bupleuroides

18 *Potamogeton perfoliatus* L. Sp. Pl. 126. 1753

Clasping-leaved pondweed

P. Loeselii R. & S. Syst. 3: 508. 1818*Peltopsis perfoliata* Raf. Jour. Phys. 89: 102. 1819

Apparently rare in northern New York, the only certain collections being from North Elba, Essex county, *Peck*; Oneida lake, *Peck*, and Sodus Bay, *House*. Hybrids with *P. praelongus* and with *P. crispus*, are described from Europe.

19 *Potamogeton bupleuroides* Fernald, Rhodora 10: 46. 1908

Saranac Lake, Essex county, *Peck*. Oneida lake, *W. C. Muenscher*. Doubtless of wider distribution in the State northward.

20 *Potamogeton Robbinsii* Oakes, Hovey's Mag. 7: 180. 1841

Robbin's pondweed

In ponds and lakes. Rare and local.

White Plains, *H. G. Clark* (Gray's Man.). Orange county, *Austin* (Taylor, Fl. Vic. N. Y. 83. 1915). Onondaga lake, *Paine* (Cat. 133. 1865). Hudson river near Rhinebeck, *H. Andrews* (38th Rep't N. Y. State Mus. 108. 1885). Irondequoit bay, etc. (Proc. Rochester Acad. 3: 114 1896). Ballston lake, Saratoga county, *Peck*.

21 *Potamogeton pectinatus* L. Sp. Pl. 127. 1753

Fennel-leaved pondweed

In fresh, brackish or salt water. Common throughout most sections of the State, and somewhat variable.

22 *Potamogeton vaginatus* Turcz. Bul. Soc. Nat. Mosc. 11: 102.

1838. (St John, Rhodora 20: 191. 1918)

P. moniliformis St John, Rhodora 18: 130. 1916

In deep water, Cayuga lake, *Dr Emmaline Moore*, July 16, 1916 (cited by St John), and doubtless elsewhere in the lakes of central and northern New York.

23 *Potamogeton filiformis* Pers. Syn. 1: 152 1805

Filiform pondweed

In lakes and ponds or sometimes in ditches. Locally distributed northward across the State. Not reported from south of Albany and Tompkins counties.

All of our material seems to belong to the var. *borealis* (Raf.) St John, Rhodora 18: 134. 1916 (*P. borealis* Raf. Med. Repos. II. 5: 354. 1808), viz.:

Cedar lake, Herkimer county, *Peck* (47th Rep't N. Y. State Mus. 37. 1894). Hemlock lake, *Peck* (49th Rep't 28. 1896). More-

houseville, Hamilton county, *Peck*. St Lawrence river at Massena, *Mrs O. P. Phelps*. Seneca lake, *Morong*.

Var. *Macounii* Morong, Torr. Club Mem. 3²: 50. 1893. May be looked for in the northern and western sections of the State. (Some authorities refer the typical European form of this species to *P. gramineus* L., the exact status of which is much disputed.)

24 *Potamogeton Friesii* Rupr. Beitr. Russ. Reich. 4: 43. 1845
Fries's pondweed

P. pusillus var. *major* Fries, Novit. Fl. Suec. ed. 2, 48. 1828

P. compressus Oeder, Fl. Dan. pl. 203. 1765. Not L. 1753

P. major Morong, l.c. 41

In still water of ponds, lakes and bays or in slow streams. Local or rare across the northern and western sections of the State.

Cayuga and Seneca lakes, *Peck* (47th Rep't N. Y. State Mus. 17. 1894). Crooked lake, *Sartwell* (as *P. pusillus*). Seneca lake, abundant, *Morong*. Lake Bonaparte, Lewis county, *Peck*. Chaumont, Jefferson county, *Fernald & Wiegand* (*Rhodora* 25: 206. 1923). *P. mucronatus* Schrad. (in R. & S. Syst. 3: 517. 1818—Gray, Man. ed. 6) is perhaps the prior name for this species.

25 *Potamogeton Hillii* Morong, Bot. Gaz. 5: 290. 1881
Hill's pondweed

In ponds. Local or rare from Dutchess county westward across the State.

Pine Plains, *Taylor* (Fl. Vic. N. Y. 84. 1915), *Hoysradt*, *Peck*. Malloryville, Tompkins county, *Dudley* (41st Rep't N. Y. State Mus. 58. 1888). Cayuga lake, *Dudley* (according to Morong).

26 *Potamogeton compressus* L. Sp. Pl. 127. 1753
Eel-grass pondweed

P. zosteræfolius Schum. Enum. Pl. Saell. 1: 50. 1801

P. complanatus Willd. Berl. Mag. 3: 248. 1809

P. cuspidatus Schrad. in Smith, Engl. Bot. 1: 235. 1828

In still or running water. Frequent northward across the State. Local or rare southward, especially on Long Island and Staten Island.

Resort, Sodus Bay, Wayne county, *House*. Warner's lake, Albany county, *Peck*. Cayuga lake, *Peck*. Lake George, *Hulst*. Buffalo, *Morong*. Little river, Canton, St Lawrence county, *Mrs O. P. Phelps*.

27 *Potamogeton obtusifolius* Mert. & Koch; in Roehling, Deuts. Fl. ed. 3, 1: 855. 1823
Blunt-leaved pondweed

P. gramineus Sowerby, Engl. Bot. 3: t. 2253. 1794. Not L.

P. compressus Wahl. Fl. Suec. 1: 107. 1824. Not L.

In still water of ponds and lakes. Rare or local across the northern part of the State, south to Dutchess county.

Pine Plains, Dutchess county, *Hoysradt* (according to Morong). Spencer, *Dudley*. Loon Lake Station, *Peck* (N. Y. State Mus. Bul. 54: 959. 1902). Cedar lake, St Lawrence county, *Peck*. Panther lake, Oswego county, *House*.

28 *Potamogeton rutilus* Wulf.; R. & S. Syst. Veg. Mant. 3: 362. 1827 Slender pondweed

In still water. Very rare in this State. Reported by *Britton & Brown* (Illus. Fl. ed. 2, 1: 83. 1913), "south to New York". Definite records are lacking.

29 *Potamogeton pusillus* L. Sp. Pl. 127. 1753. Small pondweed
P. pusillus vulgaris Fries, Novit. Fl. Suec. ed. 2, 48. 1828
P. pusillus var. *polyphyllus* Morong, Bot. Gaz. 5: 51. 1880

In ponds and slow streams. In most sections of the State the commonest of the completely submerged species of Pondweeds.

Numerous varieties have been described, most of which vary more or less, if inconstantly, from the typical form.

Var. *pseudorutilus* A. Benn. in Macoun, Cat. Can. Pl. 5: 371. 1890. (*P. strictifolius* A. Benn. Jour. Bot. 40: 148. 1902).

Recognized as a distinct species in seventh edition of Gray's manual.

Var. *tenuissimus* Mert. & Koch., l.c.

Var. *elongatus* A. Benn. l.c. 371

Var. *panormitanus* A. Benn. Jour. Bot. 19: 67. 1881

Var. *capitatus* A. Benn. Jour. Bot. 39: 201. 1901

Var. *Sturrockii* A. Benn. Jour. Bot. 21: 279. 1883

Brief descriptions of these varieties will be found in Gray's Manual, ed. 7, in Morong's Monograph (1893), and in the Journal of Botany, as cited.

30 *Potamogeton foliosus* Raf. Med. Rep. II. 5: 354. 1808 Leafy pondweed

P. gramineus Michx. Fl. Bor. Am. 1: 102. 1803. Not L. 1753

P. pauciflorus Pursh, Fl. Am. Sept. 121. 1814. Not Lam.

In still water of ponds and streams. Frequent.

Long Island and Staten Island to Westchester and Dutchess counties, *Taylor* (Fl. Vic. N. Y. 84. 1915). Chenango river at Oxford, *Coville* (Clute, Fl. Upper Susquehanna 118. 1898). Near Rochester and in Wayne county, *Booth*, *Hankenson* (Proc. Rochester Acad. 3: 114. 1896). Near Utica, *Haberer*. Edwards, St Lawrence county, *Mrs O. P. Phelps*.

Var. *niagarensis* (Tuckerm.) Morong, Torr. Club mem. 3²: 39; 1893 (*P. niagarensis* Tuckerm. Am. Jour. Sci. II. 7: 354. 1849). Reported from a canal at Niagara Falls, *Morong* (Torr. Club Bul. 14: 52. 1887).

- 31 *Potamogeton confervoides* Reichenb. Ic. Fl. Germ. 7: 13.
1845 Alga-like pondweed

P. trichoides A. Gray, Man. 457. 1848. Not Cham. & Schlecht. 1827
P. Tuckermanni Robbins, in A. Gray, Man. ed. 2, 434. 1856

In cold mountain brooks. Rare. Definite records from this State are lacking although Morong cites a New York collection by Torrey, and the state herbarium contains a specimen without definite locality or date, supposed to have been collected in New York.

- 32 *Potamogeton lateralis* Morong, Bot. Gaz. 5: 51. 1880
Opposite-leaved pondweed

Ponds and lakes. Rare.

Hemlock lake, *E. J. Hill* (Torr. Club Bul. 10: 92. 1883). Hemlock and Canadice lakes, *Peck* (49th Rep't N. Y. State Mus. 16 Bot. ed. 1896).

Potamogeton nitens Weber, has been reported from the United States, but such specimens are said to be infertile, and are probably hybrids between *P. gramineus* var. *graminifolius* and *P. Richardsonii*, *P. perfoliatus* or *P. bulbopneuroides*.

RUPPIA L. Sp. Pl. 127. 1753

- Ruppia maritima* L. 1.c Seagrass, ditchgrass, tassel pondweed

Shallow waters and bays along the coast, and in saline places in the interior at Onondaga lake (Paine, Cat. 133. 1865).

The common form along the Atlantic coast has been described as var. **longipes** Hagstrom (Bot. Notiser, 138. 1911), and the form at Onondaga lake, as var. **onondagensis** Fernald & Wiegand (Rhodora 16: 126. 1914). Var. **rostrata** Agardh. (Physiogr. Sallsk. Arbetr. 6 Maj, 37. 1823), is apparently rare in this State.

ZANNICHELLIA L. Sp. Pl. 969. 1753

- Zannichellia palustris* L. l.c. Horned pondweed

Z. intermedia Torrey; in Eaton, Man. ed. 4, 504. 1824

In fresh and brackish water. Locally common along the coastal region. Less frequent or rare inland.

Westport, Lake Champlain, *Peck* (22d Rep't N. Y. State Mus. 103. 1869.) Onondaga lake and Penn Yan, *Sartwell* (Paine, Cat. 133. 1865). Oxford, Chenango county, *Coville* (Clute, Fl. Upper Susquehanna 118. 1898). Irondequoit bay, not common, the var. **pedunculata** in Thomas's creek, Brighton, *Booth* (Proc. Rochester Acad. 3: 114. 1896).

According to Fernald (*Rhodora* 23: 110. 1921), the American plant is distinct from the European typical form and should be known as var. **major** (Boenningh) Koch, Syn. Deutsch. u. Schweiz. Fl. 679. 1837.

Family 4 **NAIADACEAE** Lindl. Nat. Syst. ed. 2, 366. 1836

NAIAS L. Sp. Pl. 1015. 1753

1 **Naias marina** L., l.c.

Large naiad

N. major All. Fl. Ped. 2: 221. 1785

In subsaline lakes, marshes and springs; central New York.

Borders of Onondaga lake, *G. W. Clinton* (Paine, Cat. Pl. Oneida Co. 132. 1865). Foot of Cayuga lake, *Dudley* (36th Rep't N. Y. State Mus. 39. 1884). Irondequoit bay, *E. J. Pickett* (Paine, l. c. 190), and also reported from the same locality (in Proc. Rochester Acad. 3: 114. 1896; 5: 76. 1917). Seneca river near Savannah, *Peck* (N. Y. State Mus. Rep't 1872: 88. 1874). Tully lake, *Goodrich* (Fl. Onondaga Co. 30. 1912).

The var. **gracilis** Morong (Bot. Gaz. 10: 255. 1886), is found in the Canoga marshes, Seneca county, and the var. **recurvata** *Dudley* (Cayuga Fl. 104. 1886), in Cayuga lake, Irondequoit bay and other localities.

2 **Naias flexilis** (Willd.) Rost. & Schmidt. Fl. Sed. 384. 1824

Slender naiad

Caulinia flexilis Willd. Abh. Acad. Berlin 95. 1803

Najas canadensis Michx. Fl. Bor. Am. 2: 220. 1803

In ponds, lakes and streams. Common throughout most parts of the State, but rare or absent from certain portions of the Adirondacks. The var. **robusta** Morong, frequent.

3 **Naias gracillima** (A. Br.) Magnus, Beitr. 23. 1870

Thread-like Naiad

N. indica var. *gracillima* A. Br.; Engelm. in A. Gray, Man. ed. 5, 681. 1867

In pools and ponds. Eastern and southeastern parts of the State. Rare.

West Albany, *Peck* (N. Y. State Mus. Bul. 139: 26. 1910). Hudson river above Waterford, *H. K. Svenson* (cited by Fernald). Valley Stream and Rockville Center, Long Island, *Taylor* (Fl. Vic. N. Y. 85. 1915).

4 **Naias guadalupensis** (Spreng.) Morong, Torr. Club Mem. 3²: 60. 1893

Guadalupe naiad

Caulinia guadalupensis Spreng. Syst. 1: 20. 1825

Suffolk county, *St John* 2541, as *N. flexilis*, in Gray herbarium. Chaumont Bay, Jefferson county, *Fernald, Wiegand & Eames* 14116 (cf. Fernald, Distribution of Naias in Northeastern America. Rhodora 25: 105-109. 1923).

Family 5 **ZOSTERACEAE** Dumort. Anal. Fam. 65, 66. 1829

Eel-grass family

ZOSTERA L. Sp. Pl. 968. 1753

Zostera marina L., l. c. Sea-wrack, eel-grass

In bays, streams and ditches. Frequent or common along the coast of Long Island, Staten Island, Westchester and Bronx counties.

Family 6 **SCHEUCHZERIAACEAE** Agardh. Theor. Syst. Pl. 44. 1858

Arrow-grass family

TRIGLOCHIN L. Sp. Pl. 338. 1753

1 **Triglochin palustris** L., l. c. Marsh arrow-grass

In bogs and marshes, central and western New York.

Onondaga lake and at West Bergen swamp, Genesee county, *Paine* (Cat. Pl. Oneida Co. 133. 1865). First reported from Onondaga lake by *Pursh*. Near Niagara, *Cooper*; Junius, Seneca county, *Startwell*, and near Buffalo, *Kinnicutt* (Torrey, Fl. N. Y. 2: 261. 1843). Oneida, Madison county, *House*. Manlius Center, Onondaga county, *Peck*.

2 **Triglochin maritima** L., l. c. 339

Seaside arrow-grass, spike-grass

T. elata Nutt. Gen. 1: 237. 1818

In salt marshes along the coast, and in bogs and marshes inland from Herkimer and Oswego counties westward to Lake Erie.

Salina (Onondaga lake), *Cooper*; Bridgewater, Onondaga county, *Gray*, and Gorham, Ontario county (Torrey, Fl. N. Y. 2: 261. 1843). Onondaga lake and bogs of West Bergen swamp, *Paine*, (Cat. Pl. Oneida Co. 134. 1865). Mud lake near North Hannibal, Oswego county, *House*. Syracuse, *James Eights*, *C. S. Sheldon*. State marsh, Litchfield, Herkimer county; Woodville, Jefferson county, *House*. *Paine* regarded *T. elata* Nutt. as distinct, and reported it from the "cold marshes along the hilltop of the range south of the Mohawk, Mud lake, Jordanville, State marsh and Hidden lake, all in southern Herkimer county."

SCHEUCHZERIA L. Sp. Pl. 338. 1753

Scheuchzeria palustris L., l. c. Bog arrow-grass

In bogs, northern, central and western parts of the State. Rare southward to Dutchess, Greene, Chenango and Broome counties. The American form is characterized by Fernald (*Rhodora* 25: 178. 1923) as var. **americana**.

Marsh near Pine Plains, Dutchess county, *Hoysradt*. Sandlake and East Greenbush, Rensselaer county, *Peck*. Albany, *Peck*. Bingham mountain, Dutchess county and Tannersville, Greene county, *Taylor* (Fl. Vic. N. Y. 86. 1915). Chenango county, *Coville*, and Broome county, *Clute* (Fl. Upper Susquehanna 117. 1898). Summit lake, Otsego County; Mud lake, Hidden lake, Wetmore's pond, southern Herkimer county; Oriskany, Rome and Point of Rock, Oneida county, *Paine* (Cat. Pl. Oneida Co. 134. 1865). Big Moose, Herkimer county, *Peck*. Kasoag, Oswego county, *Peck*. Pecksport, Madison county, *House*. Cicero swamp, Onondaga county, *Mrs M. O. Rust* (Torr. Club Bul. 10: 67. 1883). Zurich, Wayne county, *House*. Mendon, Monroe county (Proc. Rochester Acad. 3: 114. 1896). Conquest, Cayuga county, *Wiegand*.

Family 7 **ALISMACEAE** DC. Fl. Franc. 3: 181. 1805

Water plantain family

ALISMA L. Sp. Pl. 342. 1753

1 *Alisma subcordatum* Raf. Med. Repos. (II) 5: 362. 1808

Common water plantain

A. Plantago-aquatica Am. Auth. Not L., 1753

A. Plantago Bigel. Fl. Bost. 87. 1814; Torr. Fl. N. Y. 2: 258. 1843

A. trivialis & *A. parviflora* Pursh, Fl. Am. Sept. 252. 1814

In mud and shallow water. Common in all sections of the State.

2 *Alisma Geyeri* Torrey, in Nicotlet, Rep. Hydrograph. Miss. Riv. 162. 1843

Geyer's water plantain

In mud and shallow water. Rare. Near Chaumont, Jefferson county, *Fernald & Wiegand* (Rhodora 25: 206. 1923).

HELIANTHIUM Engelm.; Britton, Man. ed. 2, 54. 1905

Helianthium parvulum (Engelm.) Small, N. Am. Fl. 17: 45. 1909

Dwarf water plantain

? *Alisma tenellus* Mart.; R. & S. Syst. Veg. 7: 1600. 1830

Echinodorus parvulus Engelm.; A. Gray, Man. ed. 2, 438. 1856

E. tenellus Buchenau, Abh. Nat. Gesell. Bremen 2: 18. 1868

H. tenellus Britton, l.c.

In mud and shallow water. Reported from Maple Grove and Flushing, Long Island by Taylor (Fl. Vic. N. Y. 86. 1915). Queens, *W. C. Ferguson* (Torreya 22: 44. 1922).

LOPHTOCARPUS T. Durand, Ind. Gen. Phan. X. 1888

Lophiocarpus Miquel, Fl. Arch. Ind. 1: Pt. 2, 50. 1870. Not Turcz. 1843

Lophocarpus spongiosus (Engelm.) J. G. Smith, Rep't Missouri Bot. Gard. 11: 148. 1899

Spongy lophocarpus

Sagittaria calycina spongiosa Engelm.; A. Gray, Man. ed. 5, 493. 1867

On margins of brackish ponds and tide-water marshes. Rare. Reported only from Long Island, Staten Island and the lower Hudson river.

SAGITTARIA L. Sp. Pl. 993. 1753

- 1 **Sagittaria Engelmanniana** J. G. Smith, Torr. Club. Bul. 5: 25. 1894
Engelmann's arrowhead
In shallow water. Rare. Reported only from Long Island. Lynbrook and Lake Ronkonkoma, *Bicknell* (Taylor, Fl. Vic. N. Y. 89. 1915). Maspeth, *Roland Harper* (Torreya 17: 108. 1917).

- 2 **Sagittaria cuneata** Sheldon, Torr. Club Bul. 20: 283. 1893
Arum-leaved arrowhead
S. arifolia Nutt.; J. G. Smith, Rep. Missouri Bot. Gard. 6: 32. 1894
In mud or water. Rare and local. Held's Cove, Irondequoit bay, Monroe county, *M. S. Barter* (Proc. Rochester Acad. 5: 77. 1917 and in state herbarium). Canton, St Lawrence county, *Mrs O. P. Phelps*.

- 3 **Sagittaria latifolia** Willd. Sp. Pl. 4: 409. 1806
Broad-leaved arrowhead
S. variabilis Engelm.; A. Gray, Man. 461. 1848
S. sagittaeifolia forma *latifolia* Britton, Torr. Club Bul. 17: 125. 1890
In shallow water or mud, swamps and low marshy places. Common in nearly all sections of the State. Extremely variable and most of the so-called varieties have been quite properly reduced to forms. See B. L. Robinson (Rhodora 10: 31. 1908).

- 4 **Sagittaria rigida** Pursh, Fl. Am. Sept. 397. 1814
Sessile-fruited arrowhead
S. heterophylla Pursh, l.c. 396. Not Schreb. 1811
S. sagittifolia var. *rigida* Torr. Fl. N. Y. 2: 259. 1843

In swamps and shallow water. Orange and Broome counties northward and westward to Lake Ontario and Lake Erie. Locally abundant.

Orange county, *Taylor* (Fl. Vic. N. Y. 88. 1915). Elmira, *Lucy* (Torr. Club Bul. 10: 9. 1883). "Less common than *latifolia*," *Clute* (Fl. Upper Susquehanna 117. 1898). Genesee river and elsewhere, frequent (Proc. Rochester Acad. 3: 113. 1896). Long pond, Monroe county; Oneida lake, *House*. Oswegatchie river at Dekalb and St Lawrence river at Massena, *Mrs O. P. Phelps*. Fulton county, *Olson*.

- 5 *Sagittaria teres* S. Wats.; A. Gray, Man. ed. 6, 555. 1890.

Slender sagittaria

In ponds, southern New York. Rare. Wading River, Long Island and Peekskill, *Taylor* (Fl. Vic. N. Y. 88. 1915).

- 6 *Sagittaria Eatonii* J. G. Smith, Rep. Missouri Bot. Gard. 11: 150. 1899

Eaton's sagittaria

On sandy shores, between high and low tide. Reported by Smith (l.c.) from the shore of Long Island sound, but not definitely known from this State.

- 7 *Sagittaria graminea* Michx. Fl. Bor. Am. 2: 190. 1803

Grass-leaved sagittaria

S. simplex Pursh, Fl. Am. Sept. 395. 1814

S. sagittifolia var. *simplex* Torr. Fl. N. Y. 2: 259. 1843

In mud or shallow water. Frequent or locally abundant on Long Island and northward across the State.

Oriskany creek, Oneida lake, *Kneiskern*; Outlet of the Eight lakes and on Fourth lake, northern Herkimer county, *Paine* (Cat. Pl. Oneida Co. 134. 1865). Geneganslet lake, Chenango county, and coves of the Chenango and Susquehanna rivers, *Clute* (Fl. Upper Susquehanna 117. 1898). Fourth lake, *House*.

- 8 *Sagittaria subulata* (L.) Buchenau, Abh. Nat. Ver. Bremen 2: 490. 1871

Subulate sagittaria

Alisma subulata L. Sp. Pl. 343. 1753

S. pusilla Nutt. Gen. 2: 213. 1818

In tide-water mud along the coast of southeastern New York and up the Hudson river to West Point, Peekskill and Coeymans.

Peekskill, *S. B. Mead* (Torr. Club Bul. 3: 40. 1872). East New York and Jamaica, *Ruger* (Torr. Club Bul. 3: 53. 1872). Coeymans, Albany county, *H. N. Johnson* (36th Rep't N. Y. State Mus. p. 36. 1884, and in state herbarium). Highland Falls, *Poggenburg* (Torr. Club Bul. 15: 328. 1888).

- Family 8 **VALLISNERIACEAE** Dumort. Anal. Fam. 54. 1829
Tape grass family

PHILOTRIA Raf. Am. Mo. Mag. 2: 175. 1818

Elodea Michx. Fl. Bor. Am. 1: 20. 1803. Not *Elodes* Adans. 1763

- 1 *Philotria canadensis* (Michx.) Britton, Science II. 2: 5. 1895
Northern waterweed

Elodea canadensis Michx. Fl. Bor. Am. 1: 20. 1803

E. latifolia Casp. Jahrb. Wiss. Bot. 1: 467. 1858

Anacharis canadensis Babingt. Ann. & Mag. Nat. Hist. II. 1: 85. 1848

In ponds and quiet streams. Frequent throughout most of the State north of the coastal plain region.

Grass river, Canton, St Lawrence county, *Phelps*. Watertown, *Gray*; Thousand Islands, *John Northrop*; Fish Creek, Sylvan Beach, Oneida county, *Underwood*; Chilson lake, *Dr and Mrs N. L. Britton* (Rydberg in Torr. Club Bul. **35**: 456-465. 1908). Common (Proc. Rochester Acad. **3**: 105. 1893).

- 2 *Philotria occidentalis* (Pursh) House, N. Y. State Mus. Bul. 243-244: 55. 1923** Narrow-leaved waterweed

Serpicula verticillata angustifolia Muhl. Cat. 84. 1813
S. occidentalis Pursh, Fl. Am. Sept. 33. 1814
Apalanthe Schweinitzii Planch. Ann. Sci. Nat. Bot. III. **11**: 76. 1849
Udora verticillata, ? *minor* Engelm. in Jahrb. Wiss. Bot. **1**: 465. 1885, as syn.
P. minor Small, Fl. S. E. U. S. 47. 1903
Elodea minor Farwell, Rep. Mich. Acad. Sci. **17**: 181. 1916
E. occidentalis St John, Rhodora **22**: 27. 1920

In streams, southeastern part of the State. Rare.

Rydberg (l.c.) cites: New York City, *Torrey and Gilman*. Hastings, *Bicknell*. Quogue, Long Island, *Miss E. G. Knight*.

- 3 *Philotria Nuttallii* (Planch.) Rydberg, Torr. Club Bul. 35: 461. 1903** Nuttall's waterweed

Serpicula verticillata Muhl. Cat. 84. 1813. Not L.f. 1781
Udora canadensis Nutt. Gen. **2**: 242. 1818
Anacharis Nuttallii Planch., l.c. 74
Elodea Nuttallii St John, l.c. 29

In slow streams and ponds. Rare but apparently widely distributed across the State.

Rydberg (l.c.) cites: Buffalo, *Clinton*; Kendall, Orleans county, *H. S. Burnett*; Lake View, Jefferson county, *Underwood*; *House*; Fish Creek, Oneida county, *Underwood*. Taylor (Fl. Vic. N. Y. 88. 1915) gives the distribution as "Long Island, Staten Island, and up the Hudson valley to Peekskill."

- 4 *Philotria Planchonii* (Caspary) Rydberg, Torr. Club Bul. 35: 462. 1908** Planchon's waterweed

Elodea Planchonii Caspary, Jahrb. Wiss. Bot. **1**: 468. 1858
Anacharis canadensis Planchon, Ann. Sci. Nat. Bot. III. **11**: 75. 1849
Philotria iowensis Wylie, Science, N.S. **33**: 263. 1911

St John (Rhodora **22**: 29. 1920) cites a specimen from western New York, collected by Gray.

VALLISNERIA L. Sp. Pl. 1015. 1753

- Vallisneria spiralis* L., l.c. Eel-grass, tape grass
V. americana Michx. Fl. Bor. Am. **2**: 220. 1803

In quiet waters. Frequent or common in most of the lakes, ponds and slow streams of the State.

Family 9 **HYDROCHARITACEAE** (Lindl.) Aschers. Linnaea

35: 160. 1867

Frog's-bit family

LIMNOBIUM L. C. Richard, Mem. Inst. Paris 32: 66. pl. 8. 1811

Limnobium Spongia (Bosc.) L. C. Richard, l.c. Frog's-bit

Hydrocharis Spongia Bosc. Ann. Mus. Paris 9: 396. pl. 30. 1897

H. cordifolia Nutt. Gen. 2: 241. 1818

L. Bosci L. C. Richard, l.c.

Limnocharis Spongia L. C. Richard; Steud. Nomen. ed. 2, pt. 2, 45. 1841

In shallow, usually stagnant water. Rare.

Floating in a part of Braddock's bay, Monroe county, *Bradley, Sartwell* (Paine, Cat. Pl. Oneida Co. 134. 1865). The Bradley collection also cited by Torrey (Fl. N. Y. 2: 263. 1843).

"Has not been seen for several years" (Proc. Rochester Acad. 3: 105. 1895).

Family 10 **POACEAE** R. Br. Flind. Voy. App. 2: 5, 83. 1814 *

(Gramineae Juss. Gen. 28. 1789)

Grass family.

TRIPSACUM L. Syst. Nat. ed. 10, 1261. 1759

Tripsacum dactyloides L., l.c.

Gama grass, sesame grass

Coix dactyloides L. Sp. Pl. 972. 1753

T. monostachyum Willd. Sp. Pl. 4: 202. 1805

In swamps or along streams, southeastern part of the State. Rare.

Hunter's Point, Long Island, *T. F. Allen*, 1856 (Clinton in 19th Rep't Regents, p. 76. 1886). Long Bridge, Staten Island, *Hollick* (33d Rep't N. Y. State Mus. 18. 1880). Orient Point, *Latham*.

ZEa L. Sp. Pl. 971. 1753

Mays (Tourn.) Mill. Gard. Dict. 4th Abs. ed. 1754 — Gaertn. Fruct & Sem. 1: 6. pl. 1. 1788

Mayzea Raf. Med. Fl. 2: 241. 1830

Zea Mays L., l.c.

Maize, Indian corn

Corn, or maize, probably originated on the Mexican plateau (Collins in Jour. Wash. Acad. Sci. 2: 520. 1912), and has been cultivated from prehistoric times by the races of American aborigines. Several varieties are grown, the most important being field, flint, sweet and pop. Field corn, especially, is occasionally spontaneous in and about fields after cultivation.

Coix Lacryma-Jobi L. Sp. Pl. 972. 1753; frequent in cultivation and known under the common name of Job's tears or corn-heads, native of southern Asia, is occasionally found in waste places.

*Acknowledgment is due to Prof. A. S. Hitchcock, of the United States Department of Agriculture, for critical review of the manuscript on Poaceae, and to Prof. Hitchcock and Mrs Agnes Chase who have determined the recent collections of grasses and many of the older specimens, in the state herbarium.

ANDROPOGON L. Sp. Pl. 1045. 1753

Schizachyrium Nees, *Agrost.* Bras. 331. 1829
Sect. **Campylomischus** Fourn.

- 1 **Andropogon glomeratus** (Walt.) B.S.P. Prel. Cat. N. Y. 67.
1888 Bushy beard grass

Cinna glomerata Walt. Fl. Car. 59. 1788
Andropogon macrourus Michx. Fl. Bor. Am. 1: 56. 1803
A. corymbosus Nash; Britton, Man. 69. 1901

In damp, usually sandy soil, south side of Long Island and near Tottenville, Staten Island, *Taylor* (Fl. Vic. N. Y. 98. 1915).

- 2 **Andropogon virginicus** L. Sp. Pl. 1046. 1753
Virginia beard grass, broom grass

A. dissitiflorus Michx. Fl. Bor. Am. 1: 57. 1803
Cinna lateralis Walt. Fl. Car. 59. 1788
A. vaginatus Ell. Bot. S. C. & Ga. 1: 148. 1816
A. tetrastachyus Ell., l.c. 150
Sorgum virginicum Kuntze, Rev. Gen. Pl. 792. 1891

In dry or moist fields. Common in the southeastern portion of the State. Local or locally abundant northward and westward, and not recorded north of Saratoga and Oneida counties. Rare and local westward, and there confined chiefly to sandy sections of the Ontario lowlands. Yates county, *Sartwell* Herbarium (Hamilton college).

- 3 **Andropogon furcatus** Muhl.; Willd. Sp. Pl. 4: 919. 1806
Forked beard grass

In dry or moist, usually sandy soil. Common in the coastal and southeastern sections of the State. Locally common northward to Albany and Saratoga counties, westward to Oneida, St Lawrence, Oswego, Monroe and Erie counties, but largely absent from the Alleghanian plateau region of the State.

Sect. **Schizachyrium** (Nees) Trin.

- 4 **Andropogon scoparius** Michx. Fl. Bor. Am. 1: 57. 1803
Broom beard grass

Pollinia scoparia Spreng. Pugill. 2: 13. 1815
Schizachyrium scoparium Nash, in Small, Fl. SE. U. S. 59. 1903
A. scoparius var. *villosissimum* Kearney; Scribn. & Ball, Bul. U. S. Dept. Agrost. 24: 41. 1900
A. villosissimum Nash. l.c.
A. scoparius (c), House, N. Y. State Mus. Bul. 243-244: 13. 1923

In dry or sandy fields. Very common in the southern part of the State, and locally northward to Saratoga county.

Var. **frequens** Hubbard, *Rhodora* 19: 103. 1917

A. purpurascens Muhl.; Willd. l.c. 913
A. flexilis Bosc. ex Poir. in Lam. Encycl. 1: 583. 1810
A. scoparius (a), House, l.c.

Usually the more common form of the species, especially northward in the State to Warren county, and westward to Lewis county and across the Ontario lowlands to Lake Erie, as well as locally elsewhere across the State.

Distinguished from the typical form of the species, chiefly by the glabrous or nearly glabrous sheaths and leaves.

Var. *glaucescens* var. nov. Culms erect, purplish and conspicuously glaucous beneath the nodes; leaves relatively shorter and broader than in the other varieties, light green above, glaucous beneath: the sheaths copiously pubescent with soft, white, spreading hairs. (*A. scoparius* (b), House, l.c.). Frequent on the sand plains west of Albany.

5 *Andropogon littoralis* Nash; Britton, Man. 69. 1901
Seacoast beard grass

A. scoparius var. *polyclados* Scribn. & Ball, Bul. U. S. Div. Agrost. 24: 40. 1900

A. scoparius var. *littoralis* Hitchc. Rhodora 8: 205. 1906

Schizachyrium littorale Bicknell, Torr. Club Bul. 35: 182. 1908

In sandy soil along the coast of Long Island and Staten Island where frequent.

Miscanthus sinensis Anderss. Oefv. Sv. Vet.-Akad. Forh. 12: 165. 1855. Native of China, Japan and the Celebes, has been found as an escape from cultivation on Long Island, but not recently collected there according to Taylor (Fl. Vic. N. Y. 96. 1915).

SORGHASTRUM Nash; Britton, Man. 71. 1901

Poranthera Raf. Bul. Bot. Seringe 1: 221. 1830. Not Rudge, 1811

Sorghastrum nutans (L.) Nash, in Small Fl. SE. U. S. 66. 1903

Indian grass, wild oat grass

Andropogon nutans L. Sp. Pl. 1045. 1753

A. avenaceum Michx. Fl. Bor. Am. 1: 58. 1803

Sorghum nutans A. Gray, Man. 617. 1848

Sorghastrum avenaceum Nash; Britton Man. 71. 1901

Chrysopogon nutans Benth. Jour. Linn. Soc. 19: 73. 1881

In dry soil. Frequent or common throughout the State except the Adirondack region and the extreme northern counties.

HOLCUS L. Sp. Pl. 1047. 1753

Sorghum Moench. Meth. 207. 1794

Blumenbachia Koel., Desc. Gram. 28. 1802

1 *Holcus halepensis* L., l.c.

Johnson-grass

Andropogon halepensis Brot. Fl. Lusit. 1: 89. 1804

Sorghum halepensis Pers. Syn. 1: 101. 1805

B. halepensis Koel., l.c.

In fields and waste places. Native of southern Europe and Asia. Adventive in southern New York and locally naturalized.

2 **Holcus sorghum** L. Sp. Pl. 1047. 1753

Sorghum vulgare Pers. Syn. Pl. 1: 101. 1805

Andropogon sorghum Brot., l.c.

A cultivated species, native of the old world, consisting of many races or varieties (sorghum, broom corn, kaffir corn, millo maize, durra etc.). Occasionally spontaneous in waste places but apparently not long persistent. For history and classification of sorghum see Ball (U. S. Dept. Agric. Bur. Pl. Ind. Bul. 175. 1910).

NAZIA Adans. Fam. Pl. 2: 31, 581. 1763

Tragus Hall., Stirp. Helv. 2: 203. 1768

Nazia racemosa (L.) Kuntze, Rev. Gen. Pl. 780. 1891

Prickle grass

Cenchrus racemosus L. Sp. Pl. 1049. 1753

Native of Europe and Asia. Rarely adventive in waste places or on ballast in the southern part of the State.

SYNTHERISMA Walt. Fl. Car. 76. 1788

Digitaria Hall. Stirp. Helv. 2: 244. 1768. Not Heister, 1759

1 **Syntherisma filiformis** (L.) Nash, Torr. Club Bul. 22: 420. 1895
Slender finger grass

Panicum filiforme L. Sp. Pl. 57. 1753

Digitaria filiformis Koel. Descr. Gram. 26. 1802

Dry sandy soil. Long Island and Staten Island. Common. Rare or local northward in the State to Albany county.

2 **Syntherisma Ischaemum** (Schreb.) Nash, N. Am. Fl. 17: 151. 1912
Small crab grass

Panicum lineare Krock. Fl. Sil. 1: 95. 1789. Not L. 1762

F. Ischaemum Schreb.; Schweigger, Spec. Fl. Erlang. 16. 1804

Digitaria humifusa Pers. Syn. 1: 85. 1805

S. lineare Nash, Torr. Club Bul. 22: 420. 1895

S. humifusa Rydb. N. Y. Bot. Garden Mem. 1: 469. 1900

In cultivated and waste grounds. Common. Naturalized from Europe. Reported by *Mrs O. P. Phelps*, as rare in St Lawrence county.

3 **Syntherisma sanguinalis** (L.) Dulac, Fl. Hautes-Pyr. 77. 1867
Large crab grass

Panicum sanguinale L. Sp. Pl. 57. 1753

Digitaria sanguinalis Scop. Fl. Carn. ed. 2, 1: 52. 1772

Syntherisma praecox Walt. Fl. Car. 76. 1788

In cultivated and waste grounds. Common. Naturalized from Europe.

LEPTOLOMA Chase, Proc. Biol. Soc. Washington 19: 191. 1906
Leptoloma cognatum (Schultes) Chase, l.c. 192

Diffuse crab grass

Panicum cognatum Schultes, Mant. 2: 235. 1824

P. divergens Muhl. Gram. 120. 1817. Not H.B.K. 1815

In dry soil. Native of the middle western and southern states, and recorded eastward to New Hampshire and Long Island.

Riverhead, Long Island, *Taylor* (Fl. Vic. N. Y. 99. 1915). Common in sandy fields west of Albany, and near Karner, Albany county, *House No.* 6568, July 28, 1919.

PASPALUM L. Syst. Nat. ed. 10, 855. 1759

1 ***Paspalum psammophilum*** Nash; Hitchc., *Rhodora* 8: 205.

1906

Prostrate paspalum

P. prostratum Nash; Britton Man. 74. 1901. Not Scribn. & Merr. 1900

In dry sandy soil, southeastern part of the State.

Near Kingsbridge and Arlington, New York City and on Long Island and Fisher's Island, *Taylor* (Fl. Vic. N. Y. 100. 1915). Manor, Suffolk county, *Peck* (N. Y. State Mus. Bul. 75: 20. 1904).

2 ***Paspalum pubescens*** Muhl.; Willd. Enum. Hort. Berol. 89.

1809

Pubescent paspalum

P. ciliatifolium Torr. Fl. U. S. 1: 76. 1824. Not Michx. 1803

In fields and dry woods. Frequent on Long Island and Staten Island. Rare in northern Westchester county and not definitely known farther northward in the State.

Var. ***Muhlenbergii*** (Nash) House, N. Y. State Mus. Bul. 243-244: 39. 1923

Muhlenberg's paspalum

Paspalum Muhlenbergii Nash; Britton, Man. 75. 1901

In fields or in sandy or stony soil. Frequent in the eastern and southern portions of the State. Local northward to Albany and Oneida counties and westward to Lake Erie. Frequent in Ontario and Monroe counties (Proc. Roch. Acad. 5: 77. 1917).

Mrs Chase (in lit.) points out that *P. Muhlenbergii* Nash is so closely related to *P. pubescens*, that no combination of characters holds, though extremes look quite different.

3 ***Paspalum setaceum*** Michx, Fl. Bor. Am. 1: 43. 1803.

Slender paspalum

In dry fields, eastern and southern parts of the State. Rare westward and not reported from the northern part of the State.

Manor, Long Island, *Peck* (42d Rep't N. Y. State Mus. 37. 1889). Monroe county (Proc. Roch. Acad. 3: 123. 1896).

4 *Paspalum circulare* Nash; Britton, Man. 73. 1901
Round-flowered paspalum
In fields. Rare in the southern portion of the State.

5 *Paspalum plenipilum* Nash, in Britton, Man. 73. 1901
Many-haired paspalum
In fields and along roadsides. Common south of our borders.
The only locality recorded for New York State is in the fields of the New York Botanical Garden, where it is growing wild; *Taylor* (Fl. Vic. N. Y. 101. 1915).

ECHINOCHLOA Beauv. Ess. Agrost. 53. 1812

1 *Echinochloa crusgalli* (L.) Beauv., l.c. 53. 161
Barnyard grass

Panicum crusgalli L. Sp. Pl. 56. 1753

Native of Europe and naturalized in most sections of the State. Common, chiefly as a weed in waste and cultivated grounds, except in certain mountainous sections.

The typical form is regarded as possessing relatively short awns (*P. crusgalli* var. *brevisetum* Doll, Fl. Baden 1: 272. 1857).

Forma *longiseta* (Trin.) Farwell, Rep't Mich. Acad. Sci. 21: 349. 1919

P. crusgalli var. *longisetum* Trin, Sp. Gramin. 2: t. 162. 1829

E. crusgalli var. *aristata* S. F. Gray, Nat. Arr. Br. Pl. 2: 158. 1821

? *P. crusgalli* var. *aristatum* Pursh, Fl. Am. Sept. 1: 66. 1814

This form with extremely long awns is frequent or common in many places.

Forma *vittata* Hubbard, Rhodora 18: 232. 1916

Leaves almost golden in color and veined with rather dark green. Uncommon.

Var. *Michauxii* House, l.c. 42

Panicum muricatum Michx. Fl. Bor. Am. 1: 47. 1803. Not Retz. 1786

E. muricata Fernald, Rhodora 17: 106. 1915

E. crusgalli var. *muricata* Farwell, l.c. 350

Common in low grounds, especially on gravelly or sandy shores across the State outside of the higher mountains. Probably the native American representative of this extremely variable species.

Wiegand (Rhodora 23: 58. 1921) treating *E. muricata* as a species, describes two varieties, viz: var. *occidentalis* and var. *microstachya*. The latter is recorded from New York.

Var. *edulis* Hitchc. U. S. Dept. Agric. Bul. 772: 238. 1920 (as *E. crusgalli edulis*).

Panicum frumentaceum Roxb. Hort. Beng. 7. 1814, nomen nudum

E. frumentacea Link, Hort. Berol. 1: 204. 1827

Commonly known as Japanese or barnyard millet grass and billion-dollar grass. Native of southeastern Asia and widely cultivated and well established as an escape in many localities.

2 *Echinochloa Walteri* (Pursh) Heller, Cat. N. Am. Pl. ed. 2, 21. 1900 Salt-marsh cockspear grass

Panicum hirtellum Walt. Fl. Car. 72. 1788. Not All. 1785

P. Walteri Pursh, Fl. Am. Sept. 1: 66. 1814

P. hispidum Muhl. Gram. 107. 1817. Not Forst. 1786

P. crusgalli var. *hispidum* Ell. Bot. S. C. & Ga. 1: 114. 1817; Torr. Fl. N. Y. 2: 424. 1843

In marshes and ditches. Common along the coastal region of Long Island and Staten Island. Local or rare inland to the marshes of western and central New York and northward to St Lawrence county.

Cayuga marshes, *W. R. Dudley* (53d Rep't N. Y. State Mus. 837. 1900). Montezuma marshes, *House*. Irondequoit bay, Monroe county (Proc. Rochester Acad. 3: 123. 1896). Oswegatchie river at DeKalb, St Lawrence county, *Mrs O. P. Phelps* 1107, as forma *laevigata* Wiegand (*Rhodora* 23: 62. 1921). The report of this from the Susquehanna river (Fenno in N. Y. State Mus. Bul. 75: 58. 1904), is based upon an erroneous determination as shown by recent examination of the specimens collected by Fenno. Woodville, Jefferson county, *House*.

PANICUM L. Sp. Pl. 55. 1753

Milium Mill. Gard. Dict. 4th abr. ed. 1754. Not L. 1753

Eatonia Raf. Jour. Phys. 89: 104. 1819

Steinchisma Raf. Bul. Bot. Seringe 1: 220. 1830

Phanopyrum (Raf.) Nash, in Small, Fl. SE. U. S. 104. 1903

Chasea Nieuwland, Am. Mid. Nat. 2: 64. 1911

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Section Dichotomiflora

- 1 **Panicum dichotomiflorum** Michx. Fl. Bor. Am. 1: 48. 1803
Spreading witch grass

P. geniculatum Muhl. Cat. 9. 1813

In wet soil, often on the borders of streams or lakes. Frequent in the southern part of the State. Rare northward.

Border of Oneida lake, *Kneiskern*; Salina, Clinton (Paine, Cat. Pl. Oneida Co. 173. 1865, as *P. proliferum*). Albany, *Peck*. Apalachin, *Fenno*.

Section Capillaria

- 2 **Panicum flexile** (Gattinger) Scribn. in Kearney, Torr. Club Bul. 20: 476. 1893
Wiry witch grass

P. capillare flexile Gattinger, Tennessee Flora 94. 1887

In moist or dry soil. Rare.

Marly portions of Bergen swamp, Genesee county, *House*. Norfolk, St Lawrence county, *Mrs O. P. Phelps*. Whitehall, Arden, *Peck*. Chaumont, Jefferson county, and Morristown, St Lawrence county, *Fernald & Wiegand* (*Rhodora* 25: 207. 1923).

- 3 **Panicum Gattingeri** Nash, in Small, Fl. SE. U. S. 92. 1327. 1903
Gattinger's witch grass

P. capillare var. *campestre* Gattinger, l.c. Not *P. campestre* Nees, 1826

P. capillare var. *Gattingeri* Nash, in Britton & Brown, Illus. Fl. 1: 123. 1896

In poor, often moist soil or on muddy banks. Infrequent from Westchester and Tompkins counties southward and westward.

Judd's Falls, Tompkins county, *Metcalf*. Westchester county and at Cypress Hills, Long Island, *Bicknell* (Taylor, Fl. Vic. N. Y. 108. 1915). Also reported by *Fernald & Wiegand* (l.c.) from Jefferson and St Lawrence counties.

- 4 **Panicum philadelphicum** Bernh.; Trin. Gram. Pan. 216. 1826
Woodland witch grass

P. capillare var. *sylvaticum* Torr. Fl. U. S. 149. 1824

P. capillare var. *minimum* Engelm.; Gattinger, l.c. 94

P. diffusum Pursh, Fl. Am. Sept. 68. 1814. Not Sw. 1788

P. minus Nash, Torr. Club Bul. 22: 421. 1895

In dry woodlands and thickets. Rare or local from Oneida county southward

North Bay, Oneida county, *House*. Rosendale, Ulster county, *Peck*. Easton, Pa., *Porter*.

P. Tuckermani Fernald (*Rhodora* 21: 112. 1919), according to Mrs Agnes Chase, is distinguished from *P. philadelphicum*, by glabrous pulvini. Some specimens (South Bay on Oneida lake, *Mucnscher* 14557, *House* 9854) have both glabrous and pilose pulvini. The character of glabrous pulvini is not linked with either a low or tall habit. *Peck's* specimens from Kinderhook lake, Columbia county, are mostly less than 10 cm tall, while other collections are as much as 70 cm tall. *Sylvan Beach*, Oneida county; *Port Ontario*, Oswego county, and *Woodville*, Jefferson county, *House*. *Verona*, Oneida county, *Haberer*.

5 **Panicum capillare** L. Sp. Pl. 58. 1753

Witch grass, tumbleweed

In dry soil. Common as a weed in cultivated fields, waste ground, and borders of lakes and ponds. Rare only in the higher portions of the Adirondacks and Catskill.

6 **Panicum barbipulvinatum** Nash; Rydb. N. Y. Bot. Garden Mem. 1: 21. 1900 Western witch grass

P. capillare var. *occidentale* Rydb. Contr. Nat. Herb. 3: 186. 1895

P. capillare var. *brevifolium* Vasey; Rydb. & Shear, U. S. Dept. Agrost. Bul. 5: 21. 1897

Rockaway peninsula and Long Beach, Long Island, *Bicknell* (*Rhodora* 16: 82. 1914), and probably adventive from the west (See Fernald, *Rhodora* 21: 110-111. 1919).

7 **Panicum miliaceum** L. Sp. Pl. 58. 1753

Millet

In waste places. Frequent or occasional in the agricultural sections of the State as a cultivated plant and rarely escaped or established. Native of Europe.

Section **Virgata**

8 **Panicum virgatum** L. Sp. Pl. 59. 1753

Switch grass

P. coloratum Walt. Fl. Car. 73. 1788. Not L. 1767

Eatonia purpurascens Raf. Jour. Phys. 89: 104. 1819

In moist or dry soil. Common in the southern part of the State. Local westward and not reported from the northern counties.

Oneida lake, *Kneiskern*; borders of Cayuga marshes, Seneca county and banks of Clyde river, Ontario county, *J. A. Paine* (Cat. Pl. Oneida Co. 173. 1865). *Wemple*, Albany county, *House*. *Penfield*, Monroe county, *Booth*, *Fish* (Proc. Rochester Acad. 3: 123. 1896). Tioga county, *Fenno* (Clute, Fl. Upper Susquehanna 127. 1898). Cayuga lake, *Dudley*. *Selkirk*, Oswego county, *Fernald & Wiegand* (l.c. 207).

Var. **cubense** Griseb. Cat. Pl. Cuba 233, 1866 (as *P. virgatum cubense*)

P. virgatum obtusum Wood, Bot. & Flor. 392. 1874

P. virgatum breviramisum Nash, Torr. Club Bul. 23: 150. 1896

A well marked variety found on Long Island and up the Hudson river to Albany county.

Var. **spissum** Linder, Rhodora 24: 14. 1922

Described as differing from *P. virgatum* chiefly in having, instead of the typical long, scaly, creeping rootstocks, very numerous culms rising from a stout multicapital caudex with very short internodes and with quickly ascending short basal offshoots. Exact range in New York State uncertain.

9 **Panicum amarum** Ell. Bot. S. C. & Ga. 1: 121. 1816

Smaller seabeach grass

P. amarum minor Vasey & Scribn. U. S. Dept. Agric. Bot. Bul. 8: 38. 1889

P. amaroides Scribn. & Merr. U. S. Dept. Agric. Circ. 29: 5. 1901

In sands along the coast of Long Island and Staten Island. Rare.

Section Agrostoidia

10 **Panicum agrostoides** Spreng. Pugill. 2: 4. 1815

Red-top panic grass

Wet grounds. Common southward. Local or rare northward and westward in the State to St Lawrence and Oswego counties.

Northampton, Fulton county, *Peck* (28th Rep't N. Y. State Mus. 84. 1876). Tolerably common but not reported from Chenango county, *Clute* (Fl. Upper Susquehanna 127. 1898). Poughkeepsie, *J. Carey* (Sartwell herbarium). Cleveland, Oswego county, *W. W. Rowlee*. Albany, *Peck*. Fulton, *Sheldon*. Oneida lake, *House*. Black lake, St Lawrence county, *Fernald & Wiegand* (l.c.)

11 **Panicum stipitatum** Nash, in Scribn, U. S. Dept. Agric. Div.

Agrost. Bul. 17 (ed. 2): 56. f. 352. May 22, 1901; Britton, Man.

83. 1901

Tall flat panic grass

P. elongatum Pursh, Fl. Am. Sept. 69. 1814. Not Salisb. 1796

In moist soil. Rare in southern New York. Reported by *Taylor* (Fl. Vic. N. Y. 109. 1915) from the Bronx river and near Kingsbridge.

12 **Panicum longifolium** Torr. Fl. U. S. 149. 1824

Long-leaved panic grass

Moist soil. Rare in southern New York. "On Long Island and Staten Island and in the Bronx, unknown northward," *Taylor* (Fl. Vic. N. Y. 109. 1915).

Section **Verrucosa**

- 13
- Panicum verrucosum**
- Muhl. Gram. 113. 1817

Warty panic grass

P. debile Ell. Bot. S. C. & Ga. 1: 129. 1816. Not Desf. 1798

Moist soil. Frequent on Long Island and Staten Island, but not reported from other sections of the State.

- 14
- Panicum anceps**
- Michx. Fl. Bor. Am. 1: 48. 1803

Flat-stemmed panic grass

P. rostratum Muhl. Gram. 121. 1817

Moist soil in the southern part of the State. Infrequent.

Section **Depauperata**

- 15
- Panicum depauperatum**
- Muhl. Gram. 112. 1817

Starved panic grass

P. strictum Pursh, Fl. Am. Sept. 69. 1814. Not R. Br. 1810*P. involutum* Torr. Fl. U. S. 144. 1824*P. Muhlenbergii* Spreng. Syst. 1: 314. 1825

In dry places, usually in sandy or sterile soil. Common throughout the State except in the higher Catskills and higher Adirondacks where it is rare or local.

Var. **psilophyllum** Fernald (*Rhodora* 23: 193. 1921), with leaves wholly glabrous or the sheaths only, very sparsely setulose, occurs at Irondequoit bay, *W. A. Matthews*, and Merrick, Long Island, *House*.

- 16
- Panicum linearifolium**
- Scribn.; Nash in Britton & Brown, Illus.

Fl. 3: 500. 1898

Low white-haired panic grass

P. Enslini (name misapplied by) Nash, in Britton, Man. 83. 1901

In dry soil, especially on hillsides, often in sandy soil. Common or frequent throughout the State except in the higher Adirondacks where it is rare. Reported as infrequent on Long Island and Staten Island.

- 17
- Panicum Wernerii**
- Scribn.; Nash in Britton & Brown, Illus. Fl.

3: 501. 1898

Werner's panic grass

P. delawarensense Ashe, N. Car. Agr. Exp. Sta. Bul. 175: 116. 1900*P. linearifolium* var. *Wernerii* Fernald, l.c. 194

Chiefly on dry knolls in swamps and in meadows. Rare.

Near Van Cortlandt Park, New York City, *Taylor* (Fl. Vic. N. Y. 110. 1915). West Albany, *Peck*. Tripoli, Washington county, *Burnham*. Ithaca, *W. W. Ashe*.

Section **Bicknelliana**

- 18 **Panicum Bicknellii** Nash, Torr. Club Bul. 24: 193. 1897
Bicknell's panic grass

P. nemopanthum Ashe, Jour. E. Mitch. Soc. 15: 42. 1898

P. Bushii Nash, Torr. Club Bul. 26: 568. 1899

Dry wooded hills and meadows. Rare.

Not uncommon in the Bronx and on the coastal plain of Long Island, *Taylor* (Fl. Vic. N. Y. 110. 1915). Riverhead, *Peck*. Not reported northward in the State.

- 19 **Panicum calliphyllum** Ashe, Jour. E. Mitch. Soc. 15: 31. 1898

In this State known only from Watkins, Schuyler county, the type locality.

Section **Dichotoma**

- 20 **Panicum microcarpon** Muhl.; Ell. Bot. S. C. & Ga. 1: 127. 1816
Barbed panic grass

P. nitidum var. *ramulosum* Torr. Fl. U. S. 146. 1824

Moist soil, southeastern part of the State. Rare.

- 21 **Panicum mattamuskeetense** Ashe, Jour. E. Mitch. Soc. 15: 45. 1898

Sandy borders of swamps and bogs in the southeastern part of the State. Several collections from Long Island by *Bicknell*, are cited by Hitchcock & Chase (Contr. U. S. Nat. Herb. 15: 187. 1910).

- 22 **Panicum Clutei** Nash, Torr. Club Bul. 26: 569. 1899
Clute's panic grass

Sandy margins of swamps and bogs. Uncommon or rare in Westchester county and on Long Island and Staten Island.

- 23 **Panicum boreale** Nash, Torr. Club Bul. 22: 421. 1895
Northern panic grass

Moist soil. Common throughout the northern part of the State. Less common in the Hudson valley. Not reported from Long Island or Staten Island. Frequent in the Catskill mountains and occasional in the western part of the State. (*P. nervosum* in 41st Rep't N. Y. State Mus. 58. 1888, as to specimens cited). Occurs at 3000 ft. alt. on Wallface Mt.

- 24 **Panicum dichotomum** L. Sp. Pl. 58. 1753 Forked panic grass

P. angustifolium LeConte; Torr. Cat. Pl. N. Y. 91. 1819. Not Ell. 1816

P. tremulum Spreng. Neue Entdeck. 2: 103. 1821

Dry woodlands and meadows. Frequent or common across the State outside of and chiefly south of the Adirondacks.

- 25 **Panicum barbulatum** Michx. Fl. Bor. Am. 1: 49. 1803
Barbed panic grass

P. pubescens barbulatum Britton, Cat. Pl. N. J. 280. 1889

P. gravius Hitchc. & Chase, Rhodora 8: 205. 1906

In dry woods, thickets or fields. Uncommon on Long Island (St Albans, *Bicknell*; Middle Island, Suffolk county, *House*), and probably elsewhere in the southeastern part of the State.

- 26 **Panicum lucidum** Ashe, Jour. E. Mitch. Soc. 15: 47. 1898

Sphagnum bogs and wet woods. Rare in the southeastern part of the State (Woodmere and Hempstead, Long Island, *Bicknell*), and southward.

Section **Spreta**

- 27 **Panicum spretum** Schultes, in R. & S. Syst. Veg. Mant. 2: 248. 1824
Eaton's panic grass

P. Eatoni Nash, Torr. Club Bul. 25: 84. 1898

P. paucipilum Nash, l.c. 26: 573. 1899

P. octonodum J. G. Smith; Scribn. U. S. Dept. Agric. Agrost. Bul. 17: 73. 1899

In damp or wet places, often in sandy soil, chiefly along or near the coast of southern New York. Rare inland.

Riverhead, *Peck* (46th Rep't N. Y. State Mus. 22. 1893, as *P. nitidum*). Near Albany, Riverhead and Orient Point and at Whitehall, Washington county, *Peck* (N. Y. State Mus. Bul. 139: 27. 1910). Sylvan Beach, Oneida county, *House*. Irondequoit, Monroe county, *Baxter* (Proc. Rochester Acad. 5: 77. 1917).

- 28 **Panicum Lindheimeri** Nash, Torr. Club Bul. 24: 196. 1897
Lindheimer's panic grass

P. nitidum Nash, in Britton & Brown, Illus. Fl. 1: 120. 1896

In dry sandy soil. Frequent on Long Island and Staten Island. Local or rare northward and westward in the State to Oneida, Jefferson and Genesee counties.

Sylvan Beach, Oneida county, *House*. Bergen swamp, Genesee county, in open, marly bog, *House* 6519, 6520, July 18, 1919. Genesee county, *E. J. Hill* (cited by Hitchcock & Chase). Woodville, Jefferson county *House*.

- 29 **Panicum Wrightianum** Scribn. U. S. Dept. Agric. Agrost. Bul. 11: 44. 1898
Wright's panic grass

P. deminutivum Peck, N. Y. State Mus. Bul. 116: 27. 1907

Margin of sandy bogs, Wading River, Long Island, *Peck* (August 1906).

Section *La n u g i n o s a*

- 30 ***Panicum meridionale*** Ashe, Jour. E. Mitch. Soc. 15: 59. 1898
Matting panic grass

P. filiculme Ashe, l.c.

Sandy fields and woods on the coastal plain of Long Island and Staten Island. Several Long Island collections by *Bicknell* are cited by Hitchcock & Chase (l.c. 211). Lily marsh, Oswego county, *House*. Gloversville, *Alexander*. Reports of this species northward may refer in part to *P. subvillosum* and *P. oricola*.

- 31 ***Panicum albemarlense*** Ashe, Jour. E. Mitch. Soc. 16: 84. 1900
Albemarle panic grass

In rather dry or sandy soil on southern Long Island. Rare. Garden City, Valley Stream and Hempstead, *Bicknell* (as cited by Hitchcock & Chase, l.c.). Lily marsh, South New Haven, Oswego county, *House*.

- 32 ***Panicum implicatum*** Scribn. U. S. Dept. Agric. Agrost. Bul. 11: 43. 1898
Slender-stemmed panic grass

P. unciphyllum var. *implicatum* Scribn. & Merr. Rhodora 3: 123. 1901

P. Lindheimeri var. *implicatum* Fernald, Rhodora 23: 226-228. 1922

In dry soil. Frequent or common throughout most sections of the State.

Long Island, the Bronx and Westchester county, *Taylor* (Fl. Vic. N. Y. 113. 1915). Albany; Machias, Cattaraugus county, and the Adirondack mountains, *Peck* (N. Y. State Mus. Bul. 139: 26. 1910). Monroe county, *Baxter*, *Killip* (Proc. Rochester Acad. 5: 77. 1917). Stockholm, St Lawrence county, *Mrs O. P. Phelps*. North Elba and Fulton Chain, *Peck*. Newcomb, Essex county; Cohasset on Fourth lake, *House*. Sylvan Beach, Oneida county, *House*. Pine plains of Rome, *House*. Washington county, *Burnham*. Karner, Albany county, *House*. Tompkins county, *Eames & Wiegand*.

- 33 ***Panicum huachucae*** Ashe, Jour. E. Mitch. Soc. 15: 51. 1898
Hairy panic grass

P. nitidum pilosum Torr. Fl. U. S. 146. 1824

P. pubescens Nash, in Britton & Brown, Illus. Fl. 1: 121. 1896. Not Lam. 1797

In dry soil. Frequent or common throughout most sections of the State, but not reported from the higher Adirondacks.

Var. ***silvicola*** Hitch. & Chase, Rhodora 10: 64. 1908

P. dichotomum var. *fasciculatum* Torr. Fl. N. & Mid. U. S. 145. 1824

In dry woods and thickets. Common. Specimens of this species and its variety occur in the Sartwell herbarium under the names of

"*P. dictomum fasciculation Torr.*", and "*P. nitidum ciliatum Torr.*"

Fernald (*Rhodora* 23: 226-228. 1921 (1922)), reduces *P. huachucae* Ashe, *P. huachucae* var. *silvicola* Hitchc. & Chase, *P. tennesseense* Ashe and *P. languidum* Hitchc. & Chase, to *P. Lindheimeri* var. *fasciculatum* (Torr.) Fernald.

- 34 *Panicum auburne* Ashe, N. Car. Agr. Exp. Sta. Bul. 175: 115. 1900 Auburn panic grass

Ronkonkoma, Shoreham, Wading River, Garden City and Hempstead reservoir, Long Island, *W. C. Ferguson* (*Torreyia* 22: 44. 1922). Artists lake, Middle Island, Suffolk county, *House*.

- 35 *Panicum tennesseense* Ashe, Jour. E. Mitch. Soc. 15: 52. 1898 Tennessee panic grass

In moist ground or in open woods. Frequent southward in the State. Local or rare northward to Essex, Oneida, Jefferson and St Lawrence counties and westward to Tioga and Tompkins counties.

Long Island and Staten Island and in the Bronx, *Taylor* (Fl. Vic. N. Y. 114. 1915). Sacandaga Park, Fulton county, *A. Olsson*. Watertown; Sylvan Beach, Oneida county, *House*. Ausable Chasm, *Jones*. Thousand Islands, *Robinson & Maxon*. Ithaca, *Coville*. Long Island, *Bicknell*. West Canada creek, Herkimer county, *A. Gray* (In Beck herbarium). Taberg, Oneida county, *House*. Canton, St Lawrence county, *Mrs O. P. Phelps*.

- 36 *Panicum subvillosum* Ashe, Jour. E. Mitch. Soc. 16: 86. 1900
In dry or sandy soil. Uncommon or rare in the southern part of the State. Northward to Berkshire, Fulton county, *A. Olsson* (state herbarium).

- 37 *Panicum languidum* Hitchc. & Chase, Contr. U. S. Nat. Herb. 15: 232. 1910

The only locality in this State is indicated by a collection by *Williamson*, 1903, at Platte Clove, Catskill mountains (cited by *Hitchcock & Chase*.)

- 38 *Panicum villosissimum* Nash, Torr. Club Bul. 23: 149. 1896
White-haired panic grass

P. atlanticum Nash, Torr. Club Bul. 24: 346. 1897
P. haemacarpum Ashe, Jour. E. Mitch. Soc. 15: 55. 1898

In dry soil. Infrequent in the southern and eastern portions of the State, and westward to Monroe county.

Long Island, Staten Island and the Bronx and Westchester county, rare, *Taylor* (Fl. Vic. N. Y. 113. 1915). Newtonville, Albany

county, *Peck* (the specimens reported by *Peck* as *P. atlanticum*, are not this species). Irondequoit, Monroe county, *House* 6511, July 17, 1919.

39 *Panicum pseudopubescens* Nash, Torr. Club Bul. 26: 577. 1899

In dry or sandy soil on Long Island (Manorville, *House* June 20, 1916).

40 *Panicum scoparioides* Ashe, Jour. E. Mitch. Soc. 15: 53. 1898

In dry soil. Reported from Vermont and Connecticut to Minnesota, Indiana and Delaware, but definite records for this State are lacking.

Section *Columbiana*

41 *Panicum Commonsianum* Ashe, Jour. E. Mitch. Soc. 15: 55. 1898

Common's panic grass

In dry sandy soil. Rare on Long Island and Staten Island. Several Long Island collections by *Bicknell* are cited by Hitchcock & Chase.

42 *Panicum Addisonii* Nash, Torr. Club Bul. 25: 83. 1898

Low stiff panic grass

P. Owenae Bicknell, Torr. Club Bul. 35: 185. 1908

In sandy soil. Local or rare on Long Island and northward to Albany county, westward to Madison county.

Rare on Long Island, *Taylor* (Fl. Vic. N. Y. 114. 1915). Newtonville, Albany county, *Peck*. Sylvan Beach, Oneida county, *Haberer*, *House*. South Bay, Madison county, *House*.

43 *Panicum tsugetorum* Nash, Torr. Club Bul. 25: 86. 1898

Hemlock panic grass

Dry soil in open woods. Frequent or common throughout most sections of the State except the higher elevations of the Catskill and Adirondack mountains.

44 *Panicum columbianum* Scribn. U. S. Dept. Agric. Agrost. Bul. 7: 78. 1897

American panic grass

P. psammophilum Nash, Torr. Club Bul. 26: 576. 1899

In fields and open woods. Common in southern New York, especially in the pine-barrens. Rare or local northward to Saratoga county and westward to Oneida county (*Sylvan Beach*, *House*).

45 *Panicum Oricola* Hitch. & Chase, *Rhodora* 8: 208. 1906

Frequent in the southern part of the State, especially on Long Island. Several Long Island collections by *Bicknell*, are cited by Hitchcock & Chase.

Section *Sphaerocarpa*

- 46 *Panicum sphaerocarpon* Ell. Bot. S. C. & Ga. 1: 125. 1816
Round-fruited panic grass

P. Kalmii Sw. Adnot. Bot. 6. 1829

In dry soil of fields or open woods. Frequent or common across the State south of the Adirondacks and outside of the Catskills.

Riverhead, Suffolk county, *Peck*. Menands, Albany county, *Peck*. Sylvan Beach, Oneida county, *House*. Junius, Seneca county, *House*. Penn Yan, Yates county, *Sartwell*. Perinton, Monroe county, *Baxter*. Niagara county, *Townsend*. Irondequoit, Monroe county, *House*.

- 47 *Panicum Scribnerianum* Nash, Torr. Club Bul. 22: 421. 1895
Scribner's panic grass

P. pauciflorum A. Gray, Man. 613. 1848. Not Ell. 1816

P. scoparium S. Wats.; Gray, Man. ed. 6, 632. 1890. Not Lam. 1798

P. macrocarpon Torr. Fl. U. S. 143. 1824. Not LeConte, 1819

In dry or moist soil. Infrequent or local across the State south of the Adirondacks.

Lansingburg, Rensselaer county, *Howe, Peck*. Glenmont, Albany county, *House*. Ithaca, *Ashe*. Long pond, Monroe county, *House*. Monroe county, *Baxter, Killip* (Proc. Rochester Acad. 5: 77. 1917).

- 48 *Panicum Liebergii* (Vasey) Scribn.; Nash in Britton & Brown, Illus. Fl. 3: 497. 1898
Leiberg's panic grass

P. scoparium Liebergii Vasey, U. S. Dept. Agric. Bot. Bul. 8: 32. 1889

Dry soil, western New York. Rare. Head of Seneca lake (Gray herbarium).

- 49 *Panicum xanthophysum* A. Gray, N. Am. Gram. & Cyp. 1: No. 28. 1834 — Ann. Lyc. Nat. Hist. 3: 234. 1835

In dry, usually sandy soil of open woods and fields. Essex, Rensselaer and Dutchess counties westward and southward, but not reported from south of the Hudson highlands nor from Long Island or Staten Island.

Mount Riga, Pine Plains, Dutchess county, and in the Catskills, *Taylor* (Fl. Vic. N. Y. 115. 1915). North Greenbush, Rensselaer county, and Mount Defiance, Essex county, *Peck*. Rotterdam, Schenectady county, *Wibbe* (Torr. Club Bul. 13: 39. 1886). Karner, Albany county, *House*. Gloversville, Fulton county, *C. P. Alexander*. Tripoli, Washington county, *Burnham*. Pine plains along Wood creek near Oneida lake, *Gray*; Hamilton, Madison county, *J. S. Douglass*, and East Albany, *Peck* (Paine, Cat. Pl. Oneida Co. 174, 191. 1865). Danby, Tompkins county, *Coville, Nash*. New London, Oneida county, *House*. Campville, Tioga county, *Fenno*. Along the Black river below Watertown, *House*.

Section **Scoparia**

- 50 **Panicum scoparium** Lam. Encycl. 4: 744. 1798

Velvety panic grass

P. pubescens Lam., l.c. 748

P. viscidum Ell. Bot. S. C. & Ga. 1: 123. pl. 7, f. 3. 1816

Moist soil. Occasional or infrequent in the southern and south-eastern portions of the State.

- 51 **Panicum aculeatum** Hitchc. & Chase, Rhodora 8: 209. 1906

Tall rough panic grass

In swampy woods. Rockville Center and Hempstead, Long Island, *Bicknell* (Taylor, Fl. Vic. N. Y. 116, 1915). Sandy thickets along shore of Oneida lake, Sylvan Beach, Oneida county, *House* 8140, June 20, 1921.

- 52 **Panicum Ashei** T. G. Pearson; Ashe, Jour. E. Mitch. Soc. 15: 35. 1898

Ashe's panic grass

P. umbrosum LeConte; Torr. Cat. Pl. N. Y. 91. 1819. Not Retz. 1786

In dry woods. Local or infrequent across the State south of the Adirondack region. Increasingly abundant southward.

Ithaca, *Dudley, Ashe*. North Bay, Oneida county, *House*. Pine plains of Rome, Oneida county, *House*. Manor, Long Island, *House*. Northville, Rockville Center and Rosedale, Long Island, *Bicknell*.

- 53 **Panicum commutatum** Schultes, Mant. 2: 242. 1824

Variable panic grass

In dry woods and thickets. Local or rare across the State south of the Adirondack region, and apparently also outside of the Catskills.

Rare on Staten Island and in the New York Botanical Garden, *Taylor* (Fl. Vic. N. Y. 116. 1915). Apalachin, Tioga county, *Fenno* (Clute, Fl. Upper Susquehanna 127. 1898). Monroe county (Proc. Rochester Acad. 5: 32. 1910). Taberg, Oneida county, *Peck*.

Section **Latifolia**

- 54 **Panicum clandestinum** L. Sp. Pl. 58. 1753 Deer-tongue grass

P. pedunculatum Torr. Fl. U. S. 141. 1824

P. decoloratum Nash, Torr. Club Bul. 26: 570. 1899

In thickets and moist places. Frequent or common throughout the State except in certain portions of the Adirondack region, and infrequent westward in the State.

- 55 **Panicum latifolium** L. Sp. Pl. 58. 1753

Broad-leaved panic grass

P. macrocarpon LeConte; Torr. Cat. Pl. N. Y. 91. 1819

In moist or dry woods. Frequent or common throughout the State, except in the higher Adirondacks.

- 56 *Panicum Boscii* Poir, in Lam. Encycl. Suppl. 4: 278. 1816
Bosc's panic grass

P. Walteri Poir., l.c. 282. Not Pursh, 1814

P. Porterianum Nash, Torr. Club Bul. 22: 420. 1895

In woods and thickets. Local or infrequent across the State south of the Adirondack region. Increasingly frequent in the southern sections of the State. Canandaigua, Ontario county, *Mrs E. P. Gardner* (Proc. Rochester Acad. 5: 77. 1917).

Var. *molle* (Vasey) Hitchcock & Chase, Rhodora 10: 64. 1908

P. latifolium molle Vasey, U. S. Dept. Agric. Div. Bot. Bul. 8: 34. 1889.
Not *P. molle* Sw. 1788

P. Walteri molle Porter, Torr. Club Bul. 20: 194. 1893

P. pubifolium Nash, Torr. Club Bul. 26: 577. 1899

A more downy-villous extreme of the species. Occurs on Long Island, *Bicknell*, and doubtless elsewhere in the southeastern part of the State.

CHAETOCHLOA Scribn. U. S. Dept. Agric. Agrost. Bul. 4: 38. 1897

Ixophorus Schlecht.; Nash, in Britton & Brown, Illus. Fl. 1: 125. 1896

Setaria Beauv. Ess. Agrost. 51. 1812. Not Ach. 1789

Chamaeraphis Kuntze, Rev. Gen. Pl. 766. 1891—Beal, N. Am. Grasses 2: 150. 1896. Not R. Br.

1 **Chaetochloa verticillata** (L.) Scribn., l.c. 39 Fox-tail grass

Panicum verticillatum L. Sp. Pl. ed. 2, 82. 1762

Setaria verticillata Beauv., l.c. 51, 178

Native of Europe. Naturalized about dwellings and in waste places. Common in most sections of the State.

2 **Chaetochloa ambigua** (Guss.) Scribn. & Merr. Bul. U. S. Dept. Agric. Div. Agrost. 21: 18. 1900

Panicum verticillatum var. *ambiguum* Guss. Prodr. Fl. Sic. 80. 1827

Setaria ambigua Guss. Fl. Sic. Syn. 114. 1842. Not Schrad. 1838

S. verticillata var. *ambigua* Richter, Pl. Eur. 1: 28. 1890

S. viridis var. *ambigua* Coss. in Coss. & Dur. Expl. Sci. Alger. 2: 36. 1854

Native of the Old World. Rare as a weed in the eastern states. Albany, *H. D. House* 8534, August 17, 1921.

3 **Chaetochloa lutescens** (Weigel) Stuntz, U. S. Bur. Pl. Ind. Inv. Seeds & Plants Imp. 31: 36, 86. 1914

Yellow fox-tail grass, pigeon grass

Panicum lutescens Weigel, Obs. 20. 1772

Setaria glauca Beauv., l.c., and most subsequent authors, not *Panicum alaucum* L., which is *Pennisetum alaucum* R. Br.

Chaetochloa glauca Scribn., l.c. 39

Setaria lutescens Hubbard, *Rhodora* 18: 232. 1916

In waste places, cultivated ground about dwellings, etc. Naturalized from Europe. Common.

4 ***Chaetochloa geniculata*** (Lam.) Millsp. & Chase, *Field Col. Mus. Publ. Bot.* 3: 37. 1903 Perennial fox-tail grass

Panicum geniculatum Lam. *Encycl.* 4: 727 (err. typ. 737). 1796

Setaria geniculata Beauv., l.c. 51

P. imberbe Poir, in Lam. *Encycl. Suppl.* 4: 272. 1816

S. imberbis R. & S. *Syst.* 2: 891. 1817 (as to syn. Poiret)

C. imberbis Scribn., l.c. 39

In moist or saline soil or in brackish marshes along the coast. Locally abundant across the State southward.

Var. ***perennis*** (Hall) House, comb. nov.

Setaria perennis Hall, *Trans. Kan. Acad. Sci.* 13: 102. 1893

C. versicolor Bicknell, *Torr. Club Bul.* 25: 105. 1898

C. occidentalis Nash, in Britton, *Man.* 90. 1901

S. imberbis var. *perennis* Hitchc. *Rhodora* 8: 210. 1906

In brackish marshes along the Atlantic coast, and at Onondaga lake.

5 ***Chaetochloa viridis*** (L.) Scribn., l.c. 39 Green fox-tail grass

Panicum viride L. *Syst. ed.* 10, 870. 1759

Setaria viridis Beauv., l.c. 51, 178

In waste ground and about dwellings, often a weed in cultivated soil. Naturalized from Europe and common in most sections of the State.

Var. ***Weinmannii*** (R. & S.) House, *N. Y. State Mus. Bul.* 243-244: 39. 1923

Setaria Weinmannii R. & S. *Syst.* 2: 495. 1817

S. viridis var. *Weinmannii* Brand, in Koch, *Syn. Deutsch. Fl. ed.* 3, 3: 2690. 1905

Infrequent or rare, and like the typical species, introduced from Europe.

6 ***Chaetochloa italica*** (L.) Scribn., l.c. 39

Italian millet, hungarian grass

Panicum italicum L. *Sp. Pl.* 56. 1753

Setaria italica Beauv., l.c. 51, 178

Native of the Old World. Frequent in cultivation and occasionally established in waste places. For the varieties of this species, cultivated or escaped, in the United States, see Hubbard (*Am. Jour. Bot.* 2: 187. 1915).

CENCHRUS L. Sp. Pl. 1049. 1753

- 1 **Cenchrus tribuloides** L., l.c. 1050 Bur grass

In sands along the coast of Long Island and Staten Island. Infrequent or local.

- 2 **Cenchrus pauciflorus** Benth. Bot. Voy. Sulph. 56. 1844
Smaller sandbur, bur grass

In dry sandy places. Locally common across the State outside of the Adirondacks, especially in regions of sandy soil.

Very common in the sand plains between Albany and Schenectady, and reported from here by *James Eights* in 1835, and by *Paine* in 1865, as *C. tribuloides*. Frequent in the sandy region east and north of Oneida lake, in most places spreading and appearing as though of comparatively recent introduction, since it was not reported from there by *Paine*. It also appears locally in other sandy sections of the Ontario lowlands in Oswego, Jefferson, Wayne and Monroe counties (Proc. Rochester Acad. 3: 124. 1896; 5: 32. 1910). Until recently this has been reported as *C. carolinianus* Walter.

ZIZANIA L. Sp. Pl. 991. 1753

- 1 **Zizania palustris** L. Mant. 2: 295. 1771 Wild rice, water oats

Z. clavulosa Michx. Fl. Bor. Am. 1: 75. 1803

Z. aquatica Ell. Bot. S. C. & Ga. 2: 585. 1821 — Britton & Brown, Illus. Fl. ed. 2, 1913. Not L.

Along shores and in shallow water of bays, lakes and margins of slow streams, often in large colonies. Common along the Hudson river northward to Washington county. Rare in the Mohawk valley. Common along the shores of Lake Champlain, the St Lawrence and Lake Ontario and Lake Erie, and inland about many of the lakes of central and western New York.

- 2 **Zizania aquatica** L. Sp. Pl. 991. 1753
Smaller or northern wild rice

Z. aquatica var. *angustifolia* Hitchc. Rhodora 8: 210. 1906

Frequent in shallow water of northern Lake Champlain, along the St Lawrence, east end of Lake Ontario to Oswego (*Sheldon*).

Rarely very tall, usually less than 3 feet tall with narrow leaves, soft in texture, the lower submerged ones, succulent and nodulose, the pistillate portion of the smaller inflorescence more appressed. Apparently mistaken by Pursh (Fl. p. 61. 1814), for *Zizania fluitans* Michx (*Hydrochloa carolinensis* Beauv), as he adds "St Lawrence," to the "Lake Champlain" locality which Michaux erroneously gives as the type locality of *Z. fluitans*.

Hitchcock (Contr. U. S. Nat. Herb. 12: 124. 1908) indicates the reasons for considering the rarer, northern, narrow-leaved plant as the type of *Z. aquatica* of Linnaeus.

HOMALOCENCHRUS Mieg. Act. Helv. Phys. Math. 4: 307. 1760

Leersia Soland., in Sw. Prodr. 21. 1788. Not Hedw. 1782

Endolia Raf. Neogent. 4. 1825

Aplexia Raf. Bul. Bot. Seringe 1: 220 1830

1 **Homalocenchrus virginicus** (Willd.) Britton, Trans. N. Y. Acad. Sci. 9: 14. 1889 White grass, white grama

Leersia virginica Willd. Sp. Pl. 1: 325. 1797

Asprella virginica Beauv. Agrost. 2, 153. 1812

In swamps and wet woods. Rare or local northward across the State but becoming frequent or locally common in the southern counties. Not reported from the Adirondacks.

Shores of Irondequoit bay, rare, and Wayne county (Proc. Rochester Acad. 3: 124. 1896). Penn Yan, Yates county, *Sartwell* (in Herb. Hamilton college). Sylvan Beach, Oneida county, *House*. Fulton, Oswego county, *Wibbe*. Albany, Rensselaer and Catskill, *Peck*. Apalachin, *Fenno*. Ithaca, *Metcalf*.

2 **Homalocenchrus oryzoides** (L.) Poll. Hist. Pl. Palat. 1: 52. 1776 Rice cut grass

Phalaris oryzoides L. Sp. Pl. 55. 1753

Leersia oryzoides Sw. Prodr. 21. 1789

Asprella oryzoides Beauv. Ess. Agrost. 2, 153. pl. 4. f. 2. 1812

In swamps and along streams, often forming dense tangled masses. Common throughout most sections of the State but reported from only a few localities of comparatively low elevation in the Adirondacks.

PHALARIS L. Sp. Pl. 54. 1753

Typhoides Moench, Meth. 201. 1794

Digraphis Trin. Fund. Agrost. 127. 1820

Endallax Raf. Bul. Bot. Seringe 1: 220. 1830

Baldingera Gaertn. Mey. & Schreb., Fl. Wett. 1: 43. 1799

1 **Phalaris arundinacea** L. Sp. Pl. 54. 1753

Reed canary grass

Calamagrostis colorata Nutt. Gen. 1: 46. 1818

P. americana Torr. Fl. U. S. 1: 100. 1823. Not Ell. 1817

Baldingera colorata Gaertn. Mey. & Schreb., l.c. 96

In marshes, swamps and on lake shores or in wet soil. Common, especially northward across the State. Less common on Long Island. Forma **picata** (L.) Aschers. & Graebn. Syn. 2: 24. 1898 (forma *variegata* (Parnell) Druce, Fl. Berks. 558. 1897), with leaves

striped with white, the familiar "ribbon grass" of cultivation, is occasionally seen as an escape.

- 2 *Phalaris canariensis* L., l.c. Canary or bird-seed grass
In waste places. Naturalized from Europe or escaped from cultivation, but not common.

ANTHOXANTHUM L. Sp. Pl. 28. 1753

- 1 *Anthoxanthum odoratum* L., l.c. Sweet vernal grass
In fields and meadows or along roadsides, less frequently in open woods. Common throughout most sections of the State, except in the more densely wooded and mountainous areas. Naturalized from Europe.
- 2 *Anthoxanthum aristatum* Boiss. Voy. Bot. de l'Espagne 2: 638. 1845 Long-awned vernal grass
A. Puelii Lecoq. & Lamotte, Cat. Pl. Auver. 385. 1847
Native of Europe. Sparingly introduced, or escaped from cultivation in waste places, especially in the southern part of the State.

TORRESIA Ruiz & Pav. Syst. Veg. Peruv. Chil. 251. 1798

- Savastana* Schrank, Baier. Fl. 1: 100, 337. 1789. Not *Savastania* Scop.
Hierochloa R. Br. Prodr. Fl. Nov. Holl. 208. 1810
Dimesia Raf. Am. Mo. Mag. 1: 442. 1817—2: 175. 1818
- 1 *Torresia odorata* (L.) Hitchc. Am. Jour. Bot. 2: 301. 1915 Holly grass, Seneca grass
Holcus odoratus L. Sp. Pl. 1048. 1753
Hierochloa borealis R. & S. Syst. 2: 513. 1817
Hierochloa odorata Wahl. Fl. Ups. 32. 1820
S. odorata Scribn. Torr. Club Mem. 5: 34. 1894

Boggy or wet meadows and fields. Frequent northward. Local or infrequent southward to Long Island and Staten Island and westward to St Lawrence, Ontario and Monroe counties.

The common eastern form of this species is distinguished by Fernald (*Rhodora* 19: 152. 1917), as *Hierochloa odorata* var. *fragrans* (Willd.) Richter.

- 2 *Torresia Nashii* (Bicknell) House, N. Y. State Mus. Bul. 243-244: 58. 1923 Nash's holly grass
S. Nashii Bicknell, Torr. Club Bul. 25: 104. pl. 328. 1898
Hierochloa Nashii Kaczmarek, Am. Mid. Nat. 3: 198. 1914

In and along the edges of brackish marshes near New York City.

3 **Torresia alpina** (Sw.) Hitchc., l.c. 300 Alpine holly grass

Holcus alpinus Sw.; Willd. Sp. Pl. 4: 937. 1806

Holcus monticola Bigel. New Eng. Med. Jour. 5: 334. 1816

Dimesia monticola Raf. Am. Mo. Mag. 1: 442. 1817

Hierochloa alpina R. & S. Syst. 2: 515. 1817

S. alpina Scribn. Torr. Club Mem. 5: 34. 1894

Subalpine summits of the Adirondack mountains. Rare.

Mount Marcy, *Torrey* (Fl. N. Y. 2: 420. 1843); *Kneiskern* (Sartwell herb.), *Peck*, *D. M. White*. Summit of McIntyre, *Peck* (N. Y. State Mus. Bul. 28: 146. 1899), *House*.

MILIUM L. Sp. Pl. 61. 1753

Milium effusum L., l.c Tall millet grass

In woods and thickets. Frequent northward. Local or scattered southward to the Catskill mountains of Greene and Delaware counties, and westward.

Not common (Proc. Rochester Acad. 3: 124. 1898). Utica and Bridgewater, *Gray*; Oriskany, *Kneiskern*; Potter, Yates county, *Sartwell* (Paine, Cat. Pl. Oneida Co. 173. 1865). Boreas river, Minerva, Essex county, *Peck* (38th Rep't N. Y. State Mus. 109. 1885). Stony Clove, Catskill mountains, *Peck* (28th Rep't 84. 1876). Apalachin, *Fenno*. Jordanville, *House*.

ORYZOPSIS Michx. Fl. Bor. Am. 1: 51. 1803

Dilepyrum Raf. Med. Repos. (II) 5: 351. 1808

Eriocoma Nutt. Gen. 1: 40. 1818

1 **Oryzopsis pungens** (Torr.) Hitchc. Contr. U. S. Nat. Herb. 12: 151. 1908 Slender mountain rice

Milium pungens Torr.; Spreng. Neue Entdeck. 2: 102. 1821

O. canadensis Torr. Fl. N. Y. 2: 433. 1843 (Not *Stipa canadensis* Poir. cf. Hitchcock, l.c.)

O. juncea BSP. Prel. Cat. N. Y. 67. 1888

In dry, rocky or sandy places. Infrequent or locally abundant across the State northward. Southward in the Hudson valley to Dutchess county and the Catskill mountains of Greene and Ulster counties.

Reported from summit of Crow's Nest, Hudson highlands, *Torrey* (Fl. N. Y. 2: 433. 1843). Albany county, *Peck* (28th Rep't N. Y. State Mus. 84. 1876). Karner, Albany county, *House*. Pine plains of Rome, *Kneiskern*; Oneida lake, *Gray*; Yates county, *Sartwell* (Paine, Cat. Pl. Oneida Co. 168. 1865). Irondequoit bay, Monroe county (Proc. Rochester Acad. 3: 124. 1896). New London, Oneida county, *House*.

2 *Oryzopsis asperifolia* Michx. l.c. 51

White-grained mountain rice

In woods throughout the northern and western portions of the State, southward to Dutchess county, the Catskill mountains and Delaware county. Less common southward to Long Island and in the southern tier of counties bordering on Pennsylvania.

3 *Oryzopsis racemosa* (J. E. Smith) Ricker; Hitchc. *Rhodora* 8: 210. 1906

Black-fruited mountain rice

Milium racemosum J. E. Smith, in Rees Cyclop. 23. No. 15. 1813

O. melanocarpa Muhl. Gram. 79. 1817

Piptathorum nigrum Torrey Fl. U. S. 1: 79. 1824

In dry or rocky woods. Locally frequent northward, and reported southward in the State to Rockland county, and Van Cortlandt Park, New York City, *Bicknell*.

STIPA L. Sp. Pl. 78. 1753

Podopogon Raf. Neogen. 4. 1825

1 *Stipa canadensis* Poir. Encycl. 7: 452. 1806

Macoun's or Richardson's feather grass

S. juncea Michx. Fl. Bor. Am. 1: 54. 1803. Not L. 1753

S. Richardsonii A. Gray, Man. ed. 2, 549. 1856. Not Link, 1833

S. Macounii Scribn.; Macoun, Cat. Can. Pl. 5: 390. 1890

Shaded places at high altitudes. Rare.

Summit of Mount Marcy, *Peck* (23d Rep't N. Y. State Mus. 50. 1872; 52d Rep't 663. 1899)

2 *Stipa avenacea* L. Sp. Pl. 78. 1753

Black oat grass

S. barbata Michx. Fl. Bor. Am. 1: 53. 1803

S. virginica Pers. Syn. 1: 99. 1805

S. bicolor Pursh, Fl. Am. Sept. 73. 1814

In dry woods, southern part of the State.

Long Island, Staten Island and up the Hudson valley to Yonkers, *Taylor* (Fl. Vic. N. Y. 121. 1915). Cold Spring, *Peck*.

3 *Stipa comata* Trin. & Rupr., Mem. Acad. St Petersburg. Sci. Nat. (VI). 5²: 75. 1842

Native of the western states. Adventive at Cobb's Hill reservoir, Rochester, *M. S. Baxter* (Proc. Roch. Acad. 5: 77. 1917).

ARISTIDA L. Sp. Pl. 82. 1753

Streptachne R. Br. Prodr. Fl. Nov. Holl. 174. 1810

Chaetaria Beauv. Ess. Agrost. 30. pl. 8. figs. 5, 6. 1812

Curtopogon Beauv., l.c. fig. 7

Trixostis Raf. Bul. Bot. Seringe 1: 121. 1830

Moulinsia Raf., l.c.

- 1 *Aristida dichotoma* Michx. Fl. Bor. Am. 1: 41. 1803

Poverty grass

In dry, sandy or sterile soil. Locally abundant in many parts of the State, but not reported from the Adirondack region.

- 2 *Aristida oligantha* Michx. Fl. Bor. Am. 1: 41. 1803

Few-flowered aristida

Native of the western and southwestern states. Adventive along the Pennsylvania railroad near Avon, Livingston county, *Baxter* (Proc. Rochester Acad. 5: 78. 1917).

- 3 *Aristida gracilis* Ell. Bot. S. C. & Ga. 1: 142. 1816

Slender triple-awned grass

In dry soil on Long Island and Staten Island. Not reported northward. Infrequent or rare.

- 4 *Aristida purpurascens* Poir. in Lam. Encycl. Suppl. 1: 452.

1810

Arrow grass, broom sedge

In dry or sandy soil. Long Island and Staten Island and at High Bridge, New York City, *T. F. Allen* (Clinton in 19th Rep't Regents 202. 1866). Gardner's Island, *Burnham & Latham* (Torreya 14: 231. 1914). Orient Point, *Latham*.

- 5 *Aristida tuberculosa* Nutt. Gen. 1: 57. 1818.

Seabeach triple-awned grass

In sandy soil, especially on Long Island and Staten Island, chiefly along the shore. Rare and local. Barton, Tioga county, *Fenno* (state herbarium), perhaps adventive. Reported from the region of the Great Lakes but definite records from Lake Ontario are lacking.

MUHLENBERGIA Schreb.; Gmel. Syst. Nat. 2: 87, 171. 1791

Dilepyrum Michx. Fl. Bor. Am. 1: 40. 1803

Podosemum Desv. Nouv. Bul. Soc. Philom. Paris 2: 188. 1810

Sericrostis Raf. Neogent. 4. 1825

Vaseya Thurber, Proc. Acad. Phila. 1863: 79. 1863

- 1 *Muhlenbergia Schreberi* Gmel., l.c. 171

Nimble will, dropseed grass, wire grass

M. diffusa Willd. Sp. Pl. 1: 320. 1797

Dilepyrum minutiflorum Michx. Fl. Bor. Am. 1: 40. 1803

On dry hills and in woods and waste places. Frequent or common in most sections of the State, but rare in the Adirondack region. The varieties of this species are described by Scribner (*Rhodora* 9: 17-23. 1907).

2 *Muhlenbergia sobolifera* (Muhl.) Trin. Unifl. 189. 1824

Rock dropseed

Agrostis sobolifera Muhl.; Willd. Enum. 95. 1809

In stony or rocky woods. Infrequent northward from Bronx county to Lake Champlain and westward across the State outside of the Adirondacks.

From the Bronx northward, *Taylor* (Fl. Vic. N. Y. 123. 1915). Rare (Proc. Rochester Acad. 3: 125. 1896). Newburgh, Saugerties and Whitehall, *Peck*.

3 *Muhlenbergia mexicana* (L.) Trin., l.c.

Satin grass, wood grass

Agrostis mexicana L. Mant. 1: 31. 1767

A. lateriflora Michx. Fl. Bor. Am. 1: 53. 1803

Trichochloa mexicana Trin. Fund. Agrost. 117. 1820

In sandy, gravelly or sometimes rocky soil along streams, shores and on banks, often in woodlands. Common in most sections of the State.

Var. *commutata* Scribn. Rhodora 9: 18. 1907

M. commutata Bush, Am. Mid. Nat. 6: 61. 1919

With larger and longer panicles; lemmas awned, the awns 4-10 mm long. Ranges across the State, chiefly south of the Adirondacks.

4 *Muhlenbergia foliosa* (R. & S.) Trin., Unifl. 190. 1824

Wood grass

Agrostis foliosa R. & S. Syst. 2: 373. 1817

A. filiformis Willd. Enum. 95. 1809. Not Spreng. 1807

Trichochloa foliosa Trin. Fund. Agrost. 117. 1820

A. lateriflora var. *filiformis* Torr. Fl. U. S. 1: 66. 1824

M. ambigua Torr., Nicollet's Rep't 164 (237). 1843

M. mexicana var. *filiformis* Scribn. Mem. Torr. Club 5: 36. 1894

In wet or swampy places. Infrequent but widely distributed across the State.

Elizabethtown, Essex county, *Peck*. Monroe county, 'Baxter' (Proc. Rochester Acad. 5: 78. 1917). Bergen swamp; Albany; Newcomb, Essex county, *House*.

5 *Muhlenbergia racemosa* (Michx.) BSP. Prel. Cat. N. Y. 67.

1888

Wild timothy, satin grass

Agrostis racemosa Michx. Fl. Bor. Am. 1: 53. 1803

Polypogon glomeratus Willd. Enum. 87. 1809

A. setosa Muhl. Gram. 68. 1817

M. glomerata Trin., Unifl. 191. 1824

In wet places and in upland marshes. Common throughout most sections of the State north and west of the Hudson Highlands. Rare on Long Island.

Var. *violacea* Scribn., *Rhodora* 9: 22. 1907, is reported from Hannibal, Oswego county.

6 *Muhlenbergia tenuiflora* (Willd.) BSP. Prel. Cat. N. Y. 67. 1888
Slender satin grass

Agrostis tenuiflora Willd. Sp. Pl. 1: 364. 1797

A. pauciflora Pursh, Fl. Am. Sept. 63. 1814

Trichochloa longiseta Trin. Fund. Agrost. 117. 1820

M. Willdenovii Trin. Unifl. 188. 1824

In rocky or dry woods. Frequent or locally abundant across the State south of the Adirondack region, but not reported from Long Island or Staten Island.

Banks and cliffs of the Mohawk valley; Little Falls, Cayuga lake and Yates county, *Paine* (Cat. Pl. Oneida Co.); Sandaken, Ulster county, *Peck*. Napanoch, *House*. Oswego, *Sheldon*. Banks of the Genesee river and sandy knolls at Mendon ponds, Monroe county (Proc. Rochester Acad. 3: 125. 1896). Western New York, *Gray*.

7 *Muhlenbergia umbrosa* Scribn. *Rhodora* 9: 20. 1907
Woodland dropseed

Agrostis diffusa Muhl., Gram. 64. 1817. Not Host. 1809

A. sylvatica Torr. Fl. U. S. 1: 87. 1824. Not L. 1753

M. sylvatica Torr. Cat. Pl. N. Y. 188. 1840

In moist woods, swamps and along streams. Frequent or locally abundant throughout the State. *M. umbrosa* var. *attenuata* Scribn., l.c., has been collected at Whitehall by Doctor Peck.

8 *Muhlenbergia capillaris* (Lam.) Trin. Unifl. 191. 1824
Long-awned hair grass

Stipa capillaris Lam. Tabl. Encycl. 1: 158. 1791

Stipa sericea Michx. Fl. Bor. Am. 1: 54. 1803

Podosemum capillare Desv. Nouv. Bul. Soc. Philom. Paris 2: 188. 1810

In dry, usually sandy soil. Reported from this State only at Wading River, Long Island, *Taylor* (Fl. Vic. N. Y. 124. 1915). Widely distributed southward.

BRACHYELYTRUM Beauv. Agrost. 39. 1812

Brachyelytrum erectum (Schreb.) Beauv., l.c. 155
Bearded short-husk

Muhlenbergia erecta Schreb.; Besch. Gras. 3: 139. pl. 50. 1772-9.

B. aristatum R. & S. Syst. 2: 413. 1817

Dilepyrum aristosum Michx. Fl. Bor. Am. 1: 40. 1803

D. erectum Farwell, Am. Mid. Nat. 8: 33. 1922

Moist places, often in woods. Frequent or common across the State northward and westward. Less common southward to Dutchess, Westchester and Greene counties and on the coastal plain of Long Island.

HELEOCHLOA Host, Gram. Austr. 1: 23, pls. 29, 30. 1801
Heleochoa schoenoides (L.) Host., l.c. Rush-like timothy
Phleum schoenoides L. Sp. Pl. 60. 1753

Native of Europe. A rare adventive in waste places in southern New York.

PHLEUM L. Sp. Pl. 59. 1753

Phleum pratense L., l.c. Timothy, herd's grass

In fields and meadows, more rarely in open woods. Common throughout the State, but infrequent in densely wooded portions of the mountainous sections. Commonly cultivated for hay, and apparently naturalized from Europe.

ALOPECURUS L., Sp. Pl. 60. 1753

1 *Alopecurus myosuroides* Huds., Fl. Angl. 23. 1762
 Slender foxtail

A. agrestis L., Sp. Pl. ed. 2, 89. 1762

In waste places and on ballast. Adventive from Europe.

Frequent near New York City. Menands, Albany county, *Peck* (N. Y. State Mus. Bul. 25: 645. 1899).

2 *Alopecurus geniculatus* L., Sp. Pl. 60. 1753 Marsh foxtail

In wet soil and marshes. Locally abundant as a weed about New York City (where probably adventive from Europe). Not reported from Long Island. Northward appearing in many places as though indigenous, although doubtless in large part adventive.

Albany and Bethlehem, *Peck*. Lansingburg, *E. C. Howe*. Green Island, *H. C. Gordinier*. North Elba, Essex county, *Peck*. Rome, *Peck*. Oriskany creek, Oneida county, *Vasey*. Yates county, *Sartwell*. Monroe county, *Baxter*. Oswego, *Sheldon*. Apalachin, Tioga county, *Fenno*. Hammond, St Lawrence county, *Mrs O. P. Phelps*.

3 *Alopecurus aequalis* Sobol. Fl. Petrop. 16. 1799
 Short-awned foxtail

A. aristulatus Michx. Fl. Bor. Am. 1: 43. 1803

A. fulvus J. E. Smith in Engl. Bot. 21: pl. 1467. 1805

A. subaristatus Pers. Syn. 1: 80. 1805

A. geniculatus var. *aristulatus* Torr. Fl. U. S. 1: 97. 1823

A. geniculatus var. *fulvus* Scribn. Torr. Club. Mem. 5: 38. 1894

Moist or wet banks and meadows. Frequent or locally abundant northward. Scarce on Long Island, and perhaps adventive from Europe. Apparently indigenous northward.

Little Falls; Canaderaga lake outlet, Otsego county; along Wood creek, Oneida county, *Kneiskern*; valley of the Unadilla, *Gray*; shore of Lake Ontario on Sodus Point; Wayne county; Penn Yan,

Yates county, *Sartwell* (Paine, Cat. Pl. Oneida Co. 165. 1865). North Spencer, Tioga county, *MacDaniels & Eames*. Oswego, *Sheldon*. Frequent (Proc. Rochester Acad. 3: 125. 1896). Canton, St Lawrence county, *Mrs O. P. Phelps*. Woodville, Jefferson county, *House*.

4 *Alopecurus pratensis* L. Sp. Pl. 60. 1753. Meadow foxtail
In meadows. Adventive or naturalized from Europe.

Orient, Long Island, *Burnham & Latham* (Torrey 14: 231. 1914). Albany, *Peck* (40th Rep't N. Y. State Mus. 74. 1887). Monroe county (Proc. Rochester Acad. 3: 125. 1896). Lansingburg, Rensselaer county, *H. C. Gordinier*. Clayville, Oneida county, *House*.

SPOROBOLUS R. Br. Prodr. Fl. Nov. Holl. 1: 169. 1810

Bennetia Raf. Bul. Bot. Seringe 1: 220. 1830

Crystostachys Steud. Syn. Pl. Glum. 1: 181. 1854

1 *Sporobolus vaginiflora* Torr.; Wood, Classbook 775. 1861

Sheathed rush grass

Vilfa vaginiflora Torr.; A. Gray, Gram. & Cyp. No. 3. 1834

In dry, rocky or sandy soil, locally abundant and apparently widely distributed throughout the State.

Watertown, Jefferson county, *Gray*. Canton, St Lawrence county, *Mrs O. P. Phelps*. Sodus Point, *Paine*. Penn Yan, Yates county, *Sartwell*. Tioga county, *Fenno*. Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 125. 1896). Karner and Glenmont, Albany county, *House*. Bergen swamp, Genesee county, *House*.

2 *Sporobolus neglectus* Nash, Torr. Club Bul. 22: 464. 1895

Small rush grass

In dry soil, often in waste places and appearing as if not indigenous. New York City, *Taylor* (Fl. Vic. N. Y. 126. 1915). Catskill mountains, Sandlake and Whitehall, *Peck* (53d Rep't N. Y. State Mus. 838. 1900). Rochester, in railroad yards, *Baxter*. Rochester (Proc. Rochester Acad. 5: 32. 1910, as *S. vaginaeflorus*, in part, at least, as to those specimens reexamined).

3 *Sporobolus clandestinus* (Spreng.) Hitchc. Contr. U. S. Nat.

Herb. 12: 150. 1906

Rough rush grass

Agrostis clandestinus Spreng. Fl. Hal. Mant. 32. 1807

S. asper (Kunth, misapplied by A. Gray), Man. ed. 6, 645. 1890

In dry soil, southern New York. Reported from Westchester county by *Taylor* (Fl. Vic. N. Y. 126. 1915).

4 *Sporobolus asper* (Michx.) Kunth, Rev. Gram. 1: 68. 1829

Long-leaved rush grass

Agrostis aspera Michx. Fl. Bor. Am. 1: 52. 1803

A. longifolia Torr. Fl. U. S. 1: 90. 1823

S. longifolius Wood, Classbook, 775. 1861

In dry soil. Apparently frequent but of irregular occurrence as judged from reports and herbarium specimens.

Rosendale, *Peck* (53d Rep't N. Y. State Mus. 853. 1900). Whitehall, Washington county, *Peck* (State Mus. Bul. 67: 35. 1903). Common on Long Island and Staten Island, also in the Bronx, *Taylor* (Fl. Vic. N. Y. 126. 1915). Poughkeepsie, *J. Carey*, Aug. 1835 (Sartwell herbarium). East Rochester, *Baxter*.

5 *Sporobolus uniflorus* (Muhl.) Scribn. & Merr., U. S. Dept. Agric. Agrost. Circ. 27: 5. 1900 Late-flowering dropseed

Poa uniflora Muhl. Descr. Gram. 151. 1817

Agrostis serotina Torr. Fl. U. S. 1: 88. 1823

S. serotina A. Gray, Man. 577. 1848

Poa modesta Tuckerm. Am. Jour. Sci. 14: 45. 1843

In wet sandy soil. Rare or local.

Sodus bay, Wayne county, *J. A. Paine* (Cat. Pl. Oneida Co. 166. 1865). Near Old Adirondack Iron works, Essex county, *Peck* (27th Rep't N. Y. State Mus. 114. 1877). Riverhead, Long Island, and reported from Westchester county, *Taylor* (Fl. Vic. N. Y. 127. 1915). Long lake, Oneida county, *House*. Wading River, Suffolk county, *Peck*. Jayville, *Peck*. Lake Pleasant, Hamilton county; Newcomb, Essex county and Tupper lake, Franklin county, *House*.

6 *Sporobolus cryptandrus* (Torr.) A. Gray, Man. 576. 1848 Sand dropseed

Agrostis cryptandra Torr. Ann. Lyc. N. Y. 1: 151. 1824

In sandy soil. Rare on Long Island. Frequent along the shore of Lake Ontario.

Orient Point, *Roy Latham*. West side of Onondaga lake, and on beaches of Lake Ontario from Sodus bay, Wayne county to Brad-dock's bay, Monroe county, *Paine* (Cat. Pl. Oneida county. 166. 1865). Webster, Monroe county, *J. Dunbar* (N. Y. State Mus. Bul. 150: 49. 1911). Three miles northeast of Oswego, *J. H. Wibbe* (Torr. Club Bul. 10: 46. 1883). Buffalo, *W. E. A. Aiken* (Sartwell herbarium). Sodus Point, Wayne county, *D. M. White*. Bayville, Nassau county; Woodville, Jefferson county, *House*.

7 *Sporobolus heterolepis* A. Gray, Man. 576. 1848 Northern dropseed

In dry soil, northern part of the State. Rare.

On rocks, Watertown, Jefferson county, *Crawe* (Gray in Rare Plants of Northern New York; Paine, Cat. Pl. Oneida county. 166. 1865; Torrey, Fl. N. Y. 2: 440. 1843).

8 *Sporobolus Torreyanus* (Schultes) Nash; in Britton, Man. 107. 1901 Flat-stemmed dropseed

Agrostis compressa Torr. Cat. Pl. N. Y. 91. 1819. Not Willd. 1790

A. Torreyana Schultes Mant. 2: 203. 1824

S. compressus Kunth, Enum. 1: 217. 1833

In pine-barren bogs on Long Island.

Omitted from the flora of New York by Torrey (1843), but reported from Long Island in Robinson & Fernald (Gray's Man. ed. 7, p. 131), and in Britton & Brown (Illus. Fl. ed. 2, 1: 200).

POLYPOGON Desf. Fl. Atl. 1: 66. 1798

Polypogon monspeliensis (L.) Desf., l.c. 67

Annual beard grass

Alopecurus monspeliensis L. Sp. Pl. 61. 1753

In waste places. Rare as a weed and adventive from Europe. Yonkers (*E. C. Howe*, in state herbarium).

CINNA L. Sp. Pl. 5. 1753

Abola Adans. Fam. Pl. 2: 31, 511. 1763

Blyttia Fries, Novit. Fl. Suec. Mant. 2: 2. 1839

1 **Cinna arundinacea** L. Sp. Pl. 5. 1753

Wood or sweet reed grass

Agrostis cinna Lam. Ill. 1: 162. 1791

Muhlenbergia cinna Trin. Diss. 1: 191. 1824

Blyttia suaveolens Fries, l.c.

In moist or wet woods and swamps. Frequent or common, throughout the State except in the pine-barrens of Long Island.

2 **Cinna latifolia** (Treviran) Griseb. in Ledeb. Fl. Ross. 4: 435. 1853 Slender wood or sweet reed grass

Agrostis latifolia Treviran, in Goepfert, Besch. d. Bot. Gart. Breslau, 82. 1830

Cinna pendula Trin. Mem. Acad. St Petersburg. (Bl.) Sci. Nat. 4¹: 280. 1841

Muhlenbergia pendula Bong. Veg. Sitch. 172. 1833

In damp woods. Frequent or occasional throughout the Adirondack region. Elsewhere rare or local.

Pine Plains, Dutchess county and in the Catskills, *Taylor* (Fl. Vic. N. Y. 128. 1915). Frequent in the high woodlands on the hills south of the Mohawk valley, from Summit lake, Otsego county to Hidden lake, southern Herkimer county; Oriskany swamp. Oneida county, *Vasey*; Trenton Falls, *Gray*; Alexandria Bay, *G. W. Clinton* (Paine, Cat. Pl. Oneida county 167. 1865). Rare, Irondequoit bay, Monroe county and in Wayne county (Proc. Rochester Acad. 3: 126. 1898). Orient Point, Long Island, *Roy Latham*. Apalachin, Tioga county, *Fenno*. Summit of Mount Marcy, *House*.

AGROSTIS L. Sp. Pl. 61. 1753

Apera Adans. Fam. Pl. 2: 495. 1763

Vilfa Adans., l.c.

Trichodium Michx. Fl. Bor. Am. 1: 41. pl. 8. 1803

Agraulus Beauv. Ess. Agrost. 5, pl. 4. f. 7. 1812

Anemagrostis Trin. Fund. Agrost. 128. 1820

Notonema Raf. Neogent. 4. 1825

1 *Agrostis spica-venti* L. Sp. Pl. 61. 1753.*

Silky bent grass, windlestraw

Apera spica-venti Beauv. Agrost. 31, 151. 1812

In waste places and on ballast. Adventive from Europe.

Rare about New York City. Lansingburg, *E. C. Howe* (42d Rep't N. Y. State Mus. 16. 1889).2 *Agrostis palustris* Huds. Fl. Angl. 27. 1762

Red-top

A. alba of most authors, doubtfully of Linnaeus

Common in all parts of the State, except some of the un lumbered portions of the Adirondacks and Catskills, and deep swamps. Undoubtedly introduced in early colonial times from Europe. See Hitchcock (Genera of Grasses of U. S. 128. 1920) and Piper (U. S. Dept. Agric. Bul. 692, 1918).

Agrostis palustris var. *stricta* (Willd.) comb. nov.*A. stricta* Willd. Sp. Pl. 1: 366. 1797; Torr. Fl. N. Y. 2: 442. 1843*A. alba* var. *aristata* A. Gray, Man. 578. 1848

A more or less marked variety with awned florets which is regarded by most authorities as indigenous to this country.

Sandy fields near Oneida lake, *Kneiskern* (Paine, Cat. Pl. Oneida Co. 166. 1865). Sandy fields, Albany county, *House*. Lansingburg, *E. C. Howe* (46th Rep't N. Y. State Mus. 52. 1893, as var. *minor* Vasey).

3 *Agrostis tenuis* Sibth. Fl. Oxon. 36. 1794 Rhode Island bent*Agrostis vulgaris* With. Bot. Arr. Brit. Pl. ed. 3, 2: 132. 1796

Dry knolls and hills, sometimes in meadows and open woods. Common. Regarded as of European origin. This species has been referred to *Agrostis capillaris* L., and has also been erroneously called *Ag. canina* by Beal (1887) and many subsequent authors.

4 *Agrostis stolonifera* L. Sp. Pl. 62. 1753

A form of this species, usually under the name of creeping bent, or carpet bent, is commonly cultivated as a lawn grass, and is naturalized in many portions of the State. The teratological form,

* Under *Agrostis*, Linnaeus describes 12 species, in 2 groups, *Aristatae* and *Muticae*. From the generic description (Gen. Pl. ed. 5, 30. 1754), it is evident that those with awned lemma and with a palea present must be regarded as typical. The first of these (since no pre-linnaean citation is given) is *Agrostis spica-venti*. If this species is to be maintained as generically distinct from *Agrostis vulgaris*, etc., it would be retained in *Agrostis*, and the other bent grasses would have to be placed in *Vilfa* Adans. Hitchcock (Genera of Grasses of the United States, 127, 1920), adopts *Agrostis stolonifera*, as the type of the genus *Agrostis* L. His reasons are clearly directed toward avoiding the change from *Agrostis* to *Vilfa*, for our common bent grasses, the name *Vilfa* having been used also for species of *Sporobolus* and hence apt to further increase the confusion in the nomenclature of the bent grasses.

due to the presence of nematodes in the abortive ovaries, producing elongated floral parts, (*Agrostis sylvatica* L.) has been collected in the Adirondacks by Peck, and occasionally reported from other portions of the State.

5 *Agrostis maritima* Lam. Encycl. 1: 61. 1783

Fiorin, dense-flowered bent grass

A. coarctata Ehrh.; Hoffm. Deutsch. Fl. ed. 2, 1: 37. 1800

A. alba var. *maritima* G. F. W. Mey. Chloris Hanov. 656. 1836

In wet sand or brackish marshes along the coast, and locally inland at Oneida lake, Montezuma marshes, Onondaga lake, along Lake Ontario, and at Machias, Tioga county. Canton, St Lawrence county, *Mrs O. P. Phelps*. Doubtless elsewhere.

6 *Agrostis canina* L. Sp. Pl. 62. 1753

Velvet bent

Native of Europe and a frequent constituent of commercial seed of creeping bent.

7 *Agrostis borealis* Hartm. Scand. Fl. ed. 3, 17. 1838

Alpine bent grass

A. canina var. *alpina* Oakes, Cat. Pl. Vermont 32. 1842

A. canina var. *tenella* Torr. Fl. N. Y. 2: 443. 1843

A. Pickeringii Tuckerm. in Hovey's Mag. Hort. 9: 143. 1843

A. rubra var. *americana* Scribn. in Macoun, Cat. Can. Pl. 5: 391. 1890

A. rubra var. *alpina* MacM. Met. Minn. 65. 1893

Near or on the summits of the higher Adirondacks.

Top of Mount Marcy, *Peck*. Marcy trail and on Whiteface, *Peck*. Summit of Mount McIntyre, *Peck* (N. Y. State Mus. Bul. 28: 147. 1899, as *A. rubra*). Tahawas, Essex county, *House*.

8 *Agrostis Schweinitzii* Trin. Mem. Acad. St Petersburg. (VI.)

Math phys. Nat. 4¹: 311. 1841

Thin grass

In shaded damp places, chiefly in the wooded and mountainous sections of the State. Common in the Adirondacks. Reported southward to Westchester and Bronx counties and on Staten Island.

9 *Agrostis perennans* (Walt.) Tuckerm., Am. Jour. Sci. 45: 44.

1843

Upland bent grass

Cornucopiae perennans Walt. Fl. Car. 74. 1788

A. intermedia Scribn., Torr. Club Bul. 20: 476. 1893. Not Balb. 1801

A. Scribneriana Nash; in Small, Fl. SE. U. S. 126. 1903

A. pseudo-intermedia Farwell, 2d Rep't. Mich. Acad. Sci. 35. 1901

In dry soil. Apparently common throughout most sections of the State, but many reports of this doubtless refer in part at least to the preceding species.

Agrostis perennans var. *elata* (Pursh) Hitchc., U. S. Dept. Agric.
Bu. Pl. Ind. Bul. 68: 50. 1905 Tall bent grass

Trichodium elatum Pursh, Fl. Am. Sept. 61. 1814

A. elata Trin., Men. Acad. St Petersburg. (VI.) Math. Phys. Nat. 4¹: 317. 1841

A. altissima Tuckerm., Am. Jour. Sci. 45: 44. 1843, as to plant described,
doubtfully *Cornucopiae altissima* Walt.

A. hyemalis var. *elata* Fernald, Rhodora 23: 229. 1922

In swamps on Long Island. Uncommon. Edgemere, and reported as common in southwestern Long Island by *Bicknell* (Taylor, Fl. Vic. N. Y. 129. 1915).

10 **Agrostis hyemalis** (Walt.) B. S. P., Prel. Cat. N. Y. 68. 1888
Hair grass, silk grass

Cornucopiae hyemalis Walt. Fl. Car. 73. 1788

Agrostis scabra Willd. Sp. Pl. 1: 370. 1797

Trichodium laxiflorum Michx. Fl. Bor. Am. 1: 42. 1803

Agrostis laxiflora Poir., Encycl. Suppl. 1: 255. 1810; Richardson, Franklin
Voy. 731 (App. 3). 1823

Agrostis laxiflora var. *scabra* Torr. Fl. N. Y. 2: 422. 1843

In dry soil, or sometimes in moist places. Frequent or common throughout most sections of the State.

A plant closely related to *A. hyemalis*, said to be common on Long Island, has been described as **Agrostis antecedens** Bicknell (Torr. Club Bul. 35: 473. 1908).

11 **Agrostis Peckii** House, Am. Mid. Nat. 7: 126. 1921
Tufted hair grass

A. caespitosa Torrey, Ann. Lyc. N. Y. 1: 152. 1824. Not Salisb.

Trichodium montanum Torr. Fl. N. & Mid. U. S. 1: 84. 1824. Not *A. montana* R. Br.

A. Torreyi Kunth, Enum. 1: 226. 1833; Tuckerman in Hovey's Mag. 9: 143. 1843. Not *A. Torreyana* Schult. 1824

A. laxiflora var. *montana* Tuckerm. Am. Jour. Sci. 45: 43. 1843

A. laxiflora var. *caespitosa* Torrey, Fl. N. Y. 2: 442. 1843

A. orcophila (Trinius, misapplied by) Nash in Britton & Brown, Illus. Fl. Ed. 2, 3: 207. 1913

A rather anomalous species, closely related to *A. hyemalis*, possessing awned spikelets, and at higher altitudes with a tendency to form tufts with numerous slender radical leaves. The species as here considered may be regarded as based upon *A. caespitosus* Torrey (1824), who first described it fully. The awn when present, varies in length and springs from the back of the flowering glume. According to Hitchcock, *Agrostis orcophilus* Trin., as to type specimen, is a small erect form of *A. perennans*.

Mount Beacon, near Fishkill, *Torrey* (in Torrey herbarium, type). Bald mountain, Herkimer county, *Paine* (Cat. Pl. Oneida county 166. 1865); *Haberer* (Rhodora 7: 106. 1905). Essex county, *Peck*. Lake Pleasant, Hamilton county, *Peck*.

MIBORA Adans. Fam. Pl. 2: 495. 1763

Mibora minima (L.) Beauv. Agrost. 30. 1812; Desv. Obs. Pl. Anj. 45. 1818

Agrostis minima L. Sp. Pl. 63. 1753

Mibora verna Beauv., l.c. 167; S. F. Gray, Nat. Arr. Br. Pl. 2: 155. 1821

Adventive in fields and neglected nursery plots at Rochester (Proc. Rochester Acad. 5: 32. 1910). Native of Europe.

CALAMAGROSTIS Adans. Fam. Pl. 2: 31, 530. 1763

Deyeuxia Clarion; Beauv. Ess. Agrost. 43. pl. 9. f. 9. 1812

Amagris Raf. Prim. Somiol. 27. 1814

Athernotus Dulac, Fl. Hautes-Pyr. 74. 1867

1 **Calamagrostis Pickeringii** A. Gray, Man. ed. 2, 541. 1856

Pickering's reed grass

C. sylvatica var. *breviseta* A. Gray, Man. 582. 1848

C. breviseta Scribn. Mem. Torr. Club 5: 41. 1894

In wet places. Infrequent or rare in the Adirondack region.

Summit of Mount Marcy, Lake Tear and Big Moose Station, Peck (state herbarium). Wilmurt, Herkimer county, *Haberer* 2875. Shore of Lake Harris, Newcomb, Essex county, *House* 7384, 1920.

Var. **lacustris** (Kearney) Hitchc. *Rhodora* 8: 210. 1906

C. breviseta lacustris Kearney, U. S. Dept. Agric. Agrost. Bul. 11: 25. 1898

C. lacustris Nash, in Britton & Brown, Illus. Fl. ed. 2, 1: 208. 1913

In shallow water. Reported from Racquet lake, *Leggett* 1867 (National herbarium, according to Kearney).

2 **Calamagrostis perplexa** Scribn. U. S. Dept. Agric. Agrost. Circ. 30: 7. 1901

Wood reed grass

C. nemoralis Kearney, l.c. 26. Not Philippi, 1896

Deyeuxia Porteri Dudley, Cayuga Fl. 125. 1886

Thacher's pinnacle, near Danby, Tompkins county, *Dudley* August 1, 1884 (national herbarium, duplicate in herbarium N. Y. State Mus.); *Coville*, 1888 (41st Rep't N. Y. State Mus. 58. 1888, as *C. Porteri*).

Calamagrostis Langsdorffii (Link) Trin., has been reported from Mount Marcy, and Mount McIntyre (collected by *Britton*), but the species is not recorded as occurring in this State either in Gray's Manual, ed. 7 (1908), or in Britton & Brown's, Illus. Flora, ed. 2 (1913). Britton's collection is cited for Mount Marcy by Taylor (*Ecology* 1: 227. 1920). Inman (*Rhodora* 24: 143. 1922) reduces this to a variety of *C. canadensis*.

- 3 **Calamagrostis canadensis** (Michx.) Beauv., Ess. Agrost. 15.
157. 1812 Blue-joint grass

Arundo canadensis Michx. Fl. Bor. Am. 1: 73. 1803

A. agrostoides Pursh, Fl. Am. Sept. 86. 1814

C. Purshii Kunth, Enum. 1: 208. 1833

In meadows, thickets, moist soil and on rocks. Common northward in the State and the most abundant grass of the northern beaver meadows. Less frequent in the western part of the State and rare or absent from the pine barrens of Long Island.

- 4 **Calamagrostis neglecta** (Ehrh.) Gaertn., Fl. Wett. 1: 94. 1799
Narrow reed grass

Arundo neglecta Ehrh. Beitr. 6: 137. 1791

C. stricta Beauv. Ess. Agrost. 15. 1812

C. neglecta borealis Kearney, l.c. 11: 35. 1898

Locally abundant on the higher summits of the Adirondacks

Wallface mountain, *Peck*. Summit of Mount Marcy, *Taylor* (Ecology 1: 227. 1920)

- 5 **Calamagrostis Porteri** A. Gray, Proc. Am. Acad. 6: 79. 1862
Porter's reed grass

Deyeuxia Porteri Vasey, Descr. Cat. Grasses U. S. 51. 1885

In dry woods. Rare. Known only from Sullivan hill, Chemung county, *T. F. Lucy* 1185, 1895.

- 6 **Calamagrostis inexpansa** A. Gray, Gram. & Cyp. 1: No. 20.
1834 Bog reed grass

C. confinis A. Gray, Man. ed. 2, 547. 1856. Not Nutt., 1818

In swamps, bogs and wet meadows. Rare and locally distributed on Long Island, Albany and Yates counties.

Smithtown, Long Island, *Peck*. Penn Yan, Yates county *Sartwell* (Herbarium Hamilton College). Karner, Albany county, *House* 6417, 1919.

- 7 **Calamagrostis hyperborea** Lange, Icon. Pl. Fl. Dan. 17: 3: *pl.*
2942. f. 1. 1880. Northern reed grass

C. robusta Vasey, Contr. U. S. Nat. Herb. 3: 82. 1892

C. lapponica A. Gray, Man. ed. 6, 650. 1890. Not Trin.

Moist meadows and calcareous cliffs. The range of this species indicates that it might be expected in the higher Adirondacks, but no definite records are available.

8 **Calamagrostis cinnoides** (Muhl.) Barton, Comp. Fl. Phila. 1: 45. 1818 Nuttall's reed grass

Arundo cinnoides Muhl. Gram. 187. 1817
C. canadensis Nutt. Gen. 1: 46. 1818. Not Beauv. 1812
C. Nuttalliana Stued. Nom. ed. 2, 1: 251. 1840
C. coarctata Torr. Fl. N. Y. 2: 444. pl. 151. 1843. Not Steud. 1840

In moist soil. Frequent in the southern part of the State. Apalachin, Tioga county, *Fenno*. Not reported from north of the Hudson Highlands or from the western counties.

AMMOPHILA Host. Gram. Austr. 4: 24. pl. 41. 1809
Psamma Beauv., Ess. Agrost. 143 pl. 6. f. 1. 1812

Ammophila breviligulata Fernald, Rhodora 22: 71. 1920
 Sea sand-reed, psamma, marram or beach grass

A. arenaria Am. Auth., not *A. arenaria* (L.) Link, of Europe

Sandy beaches along the coast of southeastern New York and along Lake Ontario. Locally abundant (cf. *Paine*, Cat. Pl. Oneida county 167. 1865; *Beckwith*, Proc. Rochester Acad. 3: 126. 1896).

NOTHOLCUS Nash; Hitchc. in Jepson, Fl. Calif. 3: 126. 1912
Ginannia Bubani, Fl. Pyren. 4: 321. 1901. Not Scop. 1777
Nothololcus Nash, in Britton & Brown, Illus. Fl. ed. 2, 1: 214. 1913

Notholcus lanatus (L.) Nash, l.c. Velvet grass

Holcus lanatus L. Sp. Pl. 1048. 1753
Ginannia lanata Hubbard, Rhodora 18: 234. 1916

In fields, meadows and waste places. Naturalized from Europe. Common on Long Island. Less frequent northward and westward in the State.

ASPRIS Adans. Fam. Pl. 2: 496. 1763

Aspris caryophyllea (L.) Nash, in Britton & Brown, Illus. Fl. ed. 2, 1: 214. 1923 Silvery hair grass

Aira caryophyllea L. Sp. Pl. 66. 1753

Adventive from Europe and rare as a weed in fields and waste places.

CORYNEPHORUS Beauv. Agrost. 90. t. 18. f. 2. 1812

Corynephorus canescens Beauv., l.c.

Native of southern Europe. Reported by Taylor (Fl. Vic. N. Y. 131. 1915) as rare on western Long Island.

AIRA L. Sp. Pl. 63. 1753

Deschampsia Beauv., Ess. Agrost. 91. pl. 18. f. 3. 1812
Lerchenfeldia Schur., Enum. Pl. Transs. 753. 1866

- 1 **Aira caespitosa** L. Sp. Pl. 64. 1753 Tufted hair grass
Aira ambigua Michx. Fl. Bor. Am. 1: 61. 1803
Deschampsia caespitosa Beauv., l.c. 160
Aira aristulata Torr., Fl. U. S. 1: 132. 1824

Moist soil, chiefly on banks or along streams. Rare or locally abundant. Not reported from the coastal plain of Long Island.

Albany; Watertown, *Gray*; Dexter, *Vasey*; Fairfield, Herkimer county and near Utica, *Gray*; Crooked lake outlet, *Sartwell*; along shore of Lake Ontario and in Bergen swamp, Genesee county, *Paine* (Cat. Pl. Oneida county 172. 1865). Caroga, Fulton county, *Peck*. Farley's Point, Cayuga lake, *Dudley*. Marl ponds, Cortland county, *Peck*. Bergen swamp, *Peck*, *Baxter*, *House*, and others.

- 2 **Aira flexuosa** L., Sp. Pl. 65. 1753. Wavy hair grass
Deschampsia flexuosa Trin., Mem. Acad. St Petersburg. (VI.) Sci. Nat. 2: 9. 1836
Salmasia flexuosa Bub., l.c. 319

In dry soil, usually in sandy or rocky situations. Frequent or common throughout the State. Collected by *Peck* on the summit of Mount McIntyre, and it is also common on Long Island.

- 3 **Aira atropurpurea** Wahl. Fl. Lapp. 37. 1812 Mountain hair grass
Deschampsia atropurpurea Scheele, Flora 27: 56. 1844

Summit of Mount Marcy, *Peck* (52d Rep't N. Y. State Mus. 663. 1899, as *D. flexuosa*). Torrey (Fl. N. Y. 2: 451. 1843).

TRisetum Pers. Syn. 1: 97. 1805

Grapphephorum Desv., Nouv. Soc. Philom. Paris 2: 189. 1810

- 1 **Trisetum spicatum** (L.) Richter, Pl. Europ. 1: 59. 1890 Narrow false oat

Aira spicata L. Sp. Pl. 64. 1753
Aira subspicata L. Syst. Veg. ed. 10, 873. 1759
Avena mollis Michx. Fl. Bor. Am. 1: 72. 1803. Not Koel. 1802
T. subspicatum Beauv., Ess. Agrost. 88, 180. 1812

On calcareous soil and limestone cliffs and rocks. Chiefly in the Mohawk valley westward to Jefferson and Monroe counties. Locally in Essex and Orange counties.

Montgomery, Orange county, *Crabtree*. Wallface mountain, *Peck* (N. Y. State Mus. Bul. 28: 148. 1899). Ausable Chasm, *Knowlton*. Black river near Brownville, *Peck*. Lyon's Falls, *Haberer*. Irondequoit bay, *Holzer*, *Booth*; Lake shore of Jefferson county, *Crave*, *Gray*; Little Falls, *Gray* (*Paine*, Cat. Pl. Oneida county 172. 1865). Central Bridge, *Peck* (32d Rep't N. Y. State Mus. 54. 1880). Lewis bluff, Oswego, *Sheldon*. South Bay, Madison county; Trenton Falls, *Haberer*.

Trisetum melicoides (Michx.) Vasey (*Aira melicoides* Michx., *Grapphephorum melicoideum* Beauv., *Dupontia Cooleyi* A. Gray), in wet soil, Anticosti island to Ontario, south to Maine, Vermont and Michigan, should be looked for in the northern part of the State,

2 **Trisetum flavescens** (L.) Beauv., Ess. Agrost. 88. *pl.* 18. *f.* 1. 1812 Yellow false oat

Avena flavescens L. Sp. Pl. 802. 1753
T. pratense Pers. Syn. 1: 97. 1805

Native of Europe. Adventive in Westchester county, *Taylor* (Fl. Vic. N. Y. 132. 1915), and Potsdam, St Lawrence county, *Mrs O. P. Phelps*.

AVENA L. Sp. Pl. 79. 1753

1 **Avena fatua** L., l.c. 80 Wild oat

In fields and waste places. Frequent or common in waste places. Naturalized from Europe. Most of the varieties of oat in cultivation in the temperate and mountain regions have been derived from this species.

2 **Avena sativa** L., l.c. 79 Oats

Persisting in fields and spontaneous along roadsides and in waste ground. Usually not tending to become established. Native of Europe.

ARRHENATHERUM Beauv., Agrost. 55. *pl.* 11. *f.* 5. 1812

Arrhenatherum elatius (L.) Beauv.; M. & K. in Rohl. Deutsch.

Fl. 1: 546. 1823 Tall oat grass

Avena elatior L. Sp. Pl. 79. 1753

In fields and waste places. Infrequent or locally abundant. Naturalized from Europe. Var. **nodosum** (Reichb.) Hubbard, and forma **striatum** Hubbard, are described in *Rhodora* 18: 235. 1916.

MELICA L. Sp. Pl. 66. 1753

Bromelica (Thurb.) Farwell, *Rhodora* 21: 77. 1919

Melica purpurascens (Torr.) Hitchc. Contr. U. S. Nat. Herb. 12: 156. 1908 Purple oat

Avena striata Michx. Fl. Bor. Am. 1: 73. 1803. Not Lam. 1783

Trisetum purpurascens Torr. Fl. U. S. 1: 127. 1824

Melica striata Hitchc. *Rhodora* 8: 211. 1906

Avena Torreyi Nash; Britton & Brown, Illus. Fl. Ed. 2, 1: 219. 1913

Bromelica striata Farwell, l.c.

In woods and clearings. Frequent across the northern part of the State, southward to Albany county and westward to Lake Erie. Rare along the southern part of its range.

DANTHONIA DC. Fl. Franc. ed. 3, 3: 32. 1805

Pentameris Beauv. Agrest. 92. *pl.* 18. *f.* 8. 1812

Merathrepta Raf., Bul. Bot. Seringe 1: 221. 1830

1 **Danthonia spicata** (L.) Beauv.; R. & S. Syst. 2: 690. 1817

Common wild oat grass

Avena spicata L. Sp. Pl. 80. 1753

In dry soil. Common throughout most sections of the State, except the pine-barrens of Long Island. Local or rare in the Adirondacks and throughout the southern tier of counties bordering on Pennsylvania.

North Elba, Essex county, *White*. Fourth lake, Herkimer county, *House*.

2 **Danthonia compressa** Austin; in Peck, 22d Rep't N. Y. State Mus. p. 54. 1869

Austin's oat grass

D. Alleni Austin, Torr. Club Bul. 3: 21. 1872

In woods and clearings. Infrequent, local or rare.

Danube, Herkimer county, *Austin* (type in state herbarium). Fulton Chain, Herkimer county, *Peck* (52d Rep't State Mus. 654. 1899). Apalachin, Tioga county, *Fenno*. Rockaway, Long Island, *Allen* (type of *D. Alleni*). Not reported from the Catskill mountains. Along Black river below Watertown, *House*.

3 **Danthonia sericea** Nutt. Gen. 1: 71. 1818

Silky wild oat grass

In dry sandy soil. Coastal plain region from Massachusetts southward. Reported from but not definitely known on Long Island.

CAPRIOLA Adans. Fam. Pl. 2: 31. 1763*Cynodon* Rich.; Pers. Syn. 1: 85. 1805*Fibichia* Koel. Gram. Gall. & Gem. 308. 1802**Capriola Dactylon** (L.) Kuntze, Rev. Gen. Pl. 764. 1891

Bermuda or scutch grass

Panicum Dactylon L. Sp. Pl. 58. 1753*Cynodon Dactylon* Pers., l.c.*F. umbellata* Koel., l.c.*F. Dactylon* Beck, in Wiss. Mitth. Bosn. Herzegow. 9: 436. 1900

In fields and waste places. Naturalized from Europe in southern and eastern New York and near Rochester, Syracuse and Buffalo.

SPARTINA Schreb.; Gmel. Syst. 1: 123. 1791*Limnetis* Rich.; Pers. Syn. 1: 72. 1805*Trachynotia* Michx. Fl. Bor. Am. 1: 63. 18031 **Spartina Michauxiana** Hitchc. Contr. U. S. Nat. Herb. 12: 153. 1908

Tall marsh grass

S. cynosuroides (Roth, misapplied by) A. Gray, Man. 585. 1848

In swamps or streams of fresh or brackish water.

Frequent on Long Island and Staten Island and the northern end of Manhattan Island, *Taylor* (Fl. Vic. N. Y. 133. 1915). Watertown; Oneida lake, *Gray*; Onondaga lake; Cayuga marshes; Canandaigua lake, *Sartwell* (Paine, Cat. Pl. Oneida Co. 168. 1865). Frequent in marshes bordering the Genesee river (Proc. Roch. Acad. 3: 123. 1896). Hudson river in Greene, Albany and Rensselaer counties, *House*. Morristown, St Lawrence county, *Mrs O. P. Phelps*. Not reported from the southern tier of counties bordering on Pennsylvania nor from the Adirondack region.

2 *Spartina cynosuroides* (L.) Roth, Catalect. 3: 10. 1806
Salt reed grass

Dactylis cynosuroides L. Sp. Pl. 71. 1753
Trachynotia polystachya Michx. Fl. Bor. Am. 1: 64. 1803
T. cynosuroides Michx., l.c.
S. polystachya Ell. Bot. S. C. & Ga. 1: 95. 1816

In salt and brackish marshes along the coast of Long Island and Staten Island, and near Yonkers.

3 *Spartina patens* (Ait.) Muhl. Gram. 55. 1817
Salt-meadow grass

Dactylis patens Ait. Hort. Kew. 1: 104. 1789
S. pumila Roth, l.c.

On salt meadows and sandy beaches along the coast of Long Island and Staten Island, and the Long Island sound coast of Bronx and Westchester counties. Common and passing into the more robust variety:

Var. *juncea* (Michx.) Hitchc. Rhodora 8: 210. 1906
Trachynotia juncea Michx. Fl. Bor. Am. 1: 64. 1803

Frequent or common in the same range as the typical species

Var. *caespitosa* (A. A. Eaton) Hitchc., l.c.
Spartina caespitosa A. A. Eaton, Torr. Club Bul. 25: 338. 1898

Borders of salt marshes near Orient, Long Island, *Latham*

4 *Spartina alterniflora* Loisel. Fl. Gall. 2: 719. 1807
Smooth salt-marsh grass

S. stricta var. *alterniflora* A. Gray, Man. ed. 2, 552. 1856
S. glabra var. *alterniflora* Merrill, U. S. Dept. Agric. Bur. Pl. Ind. Bul. 9: 9. 1902
S. stricta, of Am. authors, mainly, not Roth

Frequent or common in the salt-marshes and brackish meadows along the coastal region of Long Island, Staten Island and the Long Island sound shore of Bronx and Westchester counties.

Var. *glabra* (Muhl.) Fernald, Rhodora 18: 178. 1916
Dactylis maritima Walt., not Curtis. *S. glabra* Muhl. *S. stricta* var. *glabra* Gray. *S. stricta maritima* Scribn. *L. glabra* Nutt.

Frequent on the coast of the southern states. Orient Point, *Latham*. Oceanside, *House*.

Var. **pilosa** (Merrill) Fernald, l.c. 179

S. glabra pilosa Merrill, l.c.

Gilgo Beach, Suffolk county, Long Island, *House* (det. Chase).

BOUTELOUA Lag. Var. Cienc. y Litter. 2¹: 134. 1805

Atheropogon Muhl.; Willd. Sp. Pl. 4: 937. 1805

1 **Bouteloua gracilis** (H.B.K.) Lag.; Steud. Nom. ed. 2, 1: 219.
1840 Blue grama grass, Mesquite grass

Chondrosium gracile H.B.K. Nov. Gen. & Sp. 1: 176. pl. 58. 1816

Atheropogon oligostachya Nutt. Gen. 1: 78. 1818

B. oligostachya Torr.; A. Gray, Man. ed. 2, 553. 1856

Native of the western states. Adventive at Cobb's Hill, Rochester, *Beckwith* (Proc. Roch. Acad. 5: 78. 1917).

2 **Bouteloa curtipendula** (Michx.) Torr. in Emory's Rep. 154.
1848 Side-oats grama, tall grama grass

Chloris curtipendula Michx. Fl. Bor. Am. 1: 59. 1803

B. racemosa Lag. Var. Cienc. y Litter. 2⁴: 141. 1805

Atheropogon apludioides Muhl. l.c.

Cynosurus secundus Pursh, Fl. Am. Sept. 2: 728. 1814

Atheropogon curtipendulus Fourn. Mex. Pl. Gram. 139. 1886

In dry soil. Rensselaer county westward and southward across the State. Rare.

Lansingburg, *E. C. Howe*. Schenectady, *J. H. Wibbe* (Torr. Club Bul. 13: 39. 1886). Orange and Dutchess counties, *Torrey* (Fl. N. Y. 2: 450. 1843). Irondequoit, Monroe county, *Baxter* (Proc. Roch. Acad. 3: 127. 1896).

ELEUSINE Gaertn. Fr. & Sem. 1: 7. pl. l. 1788

Eleusine indica (L.) Gaertn. l.c. 8. Yard grass, wire grass

Cynosurus indicus L. Sp. Pl. 72. 1753

In fields, dooryards and waste places, especially about cities. Naturalized from the warmer regions of the Old World. Not reported from the northern counties of the State.

DACTYLOCTENIUM Willd. Enum. 1029. 1809

Dactyloctenium aegyptium (L.) Willd. l.c. Egyptian grass

Cynosurus aegyptius L. Sp. Pl. 72. 1753

Eleusine aegyptia Pers. Syn. 1: 87. 1805

Rare or local as a weed in waste places, chiefly in the southern part of the State. Adventive or naturalized from the warmer portions of the Old World.

PHRAGMITES Adans. Fam. Pl. 2: 34, 559. 1763

Miphragtes Nieuwl. Am. Mid. Nat. 3: 332. 1914

Trichoon Roth, Arch. Bot. Roemer 1³: 37. 1798

Phragmites *Phragmites* (L.) Karst. Deutsch. Fl. 378. 1883

Common reed grass

Arundo Phragmites L. Sp. Pl. 81. 1753

P. communis Trin. Fund. Agrost. 134. 1820

T. Karka Roth, l.c.

In swamps and wet places. Locally common throughout the State except the Adirondacks and the pine-barrens of Long Island.

Pine plains of Schenectady, *Pearson*; Summit lake, Otsego county; Oriskany, *Kneiskern*; Cayuga marshes; head of Seneca lake; Crooked lake, *Sartwell*; in all of the bays and marshes along Lake Ontario; swamps of West Bergen, Genesee county, *Paine* (Cat. Pl. Oneida Co. 171. 1865). Oneida lake, *House*. Common along the Hudson river. Not reported from the Chenango, Susquehanna or Tioga valleys.

TRIODIA R. Br. Prodr. Fl. Nov. Holl. 1: 182. 1810

Tricusps Beauv. Agrost. 77. *pl. 15 f. 10.* 1812. Not Pers. 1807

Tridens R. & S. Syst. 2: 34, 599. 1817

Windsoria Nutt. Gen. Pl. 1: 70. 1818

Triodia flava (L.) Hitchc. U. S. Dept. Agric. Bul. 772: 76. 1920

Tall red-top, purple top

Poa flava L. Sp. Pl. 68. 1753

Poa sesleroides Michx. Fl. Bor. Am. 1: 68. 1803

Sieglingia sesleroides Scribn. Torrey Club Mem. 5: 48. 1894

S. flava Kuntze, Rev. Gen. Pl. 789. 1891

Tricusps flava Hubbard, Rhodora 14: 186. 1912

Tridens flavus Hitchc. Rhodora 8: 210. 1906

In fields, meadows and marshes. Long Island and Staten Island northward through the Hudson valley to Albany county, westward to Lake Ontario, Genesee and Erie counties. Frequent southward; local or rare northward.

TRIPLASIS Beauv. Agrost. 81. *pl. 16. f. 10.* 1812

Uralespsis Nutt. Gen. 1: 62. 1818

Diplocea Raf. Am. Jour. Sci. 1: 252. 1819

Triplasis purpurea (Walt.) Chapm. Fl. S. U. S. 560. 1860

Sand grass

Aira purpurea Walt. Fl. Car. 78. 1788

Uralespsis aristulata Nutt., l.c. 63. Torr. Fl. N. Y. 2: 455. 1843

Diplocea barbata Raf., l.c.

Tricusps purpurea (Nutt.) A. Gray, Man. 589. 1848

Sieglingia purpurea (Nutt.) Kuntze, Rev. Gen. Pl. 789. 1891

In sand, especially along the sea beaches of Long Island and Staten Island. Reported from the Great Lakes, Buffalo, *G. W. Clinton*.

LEPTOCHLOA Beauv. Agrost. 71, 166. *pl.* 15 *f.* 1. 1812

Diplachne Beauv., l.c. 80. *pl.* 16. *f.* 9

Oxydenia Nutt. Gen. 1: 76. 1818

Leptochloa fascicularis (Lam.) A. Gray, Man. ed. 1, 588. 1848

Clustered salt-meadow grass

Festuca fascicularis Lam. Encycl. Tabl. 1: 189. 1791

F. procumbens Muhl. Gram. 160. 1817

Diplachne fascicularis Beauv., l.c. 160

D. procumbens Nash, in Britton, Man. 128. 1901

D. maritima Bicknell, Torr. Club Bul. 35: 195 1908

Brackish marshes and shores, along the coast of Long Island and Staten Island. Not common. Also inland at Onondaga lake.

MOLINIA Schrank, Baier. Fl. 1: 100. 1789

Molinia coerulea (L.) Moench. Meth. 183. 1794

Purple melic grass, moor grass

Aira caerulea L. Sp. Pl. 63. 1753

Sparingly adventive on ballast and in waste places. Native of Europe. Rare about New York City. Port Washington, Long Island, *House*. Found at Caroga, Fulton county by *Peck* (38th Rep't N. Y. State Mus. 83. 1885).

ERAGROSTIS Host, Icon. Gram. Austr. 4: 14. *pl.* 14. *f.* 11. 1809

Erochloe Raf. Neogent. 4, 1825; Bul. Bot. Seringe 1: 221. 1830

1 **Eragrostis capillaris** (L.) Nees, Agrost. Bras. 505. 1829

Lace grass, slender love grass

Poa capillaris L. Sp. Pl. 68. 1753

Poa tenuis Ell. Bot. S. C. & Ga. 1: 156. 1816

In dry places. Infrequent or local throughout the State south of the Adirondack region.

Western New York, *Gray*; Clyde river, Wayne county; Crooked lake, *Sartwell* (Paine, Cat. Pl. Oneida Co. 170. 1865). In Manhattan, the Bronx and Westchester counties, and at Aqueduct, Long Island, *Taylor* (Fl. Vic. N. Y. 136. 1915). Brockport, Monroe county (Proc. Roch. Acad. 3: 127. 1896). Yonkers, *E. C. Howe*. Menands, Albany county, *Peck*.

2 **Eragrostis Frankii** Steud. Syn. Pl. Gram. 273. 1854

Frank's love grass

In moist places. Infrequent or local. Not found in the Adirondack region and not reported from the lower Hudson valley, Long Island or Staten Island.

Near Troy, *E. C. Howe* (39th Rep't State Mus. 38. 1886). Waterford, *Burnham*. Schenectady, *J. H. Wibbe*. Oneida lake, *House*. Ithaca, *W. R. Dudley*. Apalachin, Tioga county, *Fenno* (Clute, Fl. Upper Susquehanna 131. 1898).

- 3 **Eragrostis pilosa** (L.) Beauv. Agrost. 71, 162. 1812
Small tufted love grass

Poa pilosa L. Sp. Pl. 68. 1753

Waste places or in cultivated ground. Infrequent or locally abundant. Naturalized from Europe. Abundant at Sylvan Beach, Oneida county, *House*; and at Apalachin, Tioga county, *Fenno*.

- 4 **Eragrostis caroliniana** (Spreng.) Scribn. Torr. Club. Mem. 5: 49. 1894
Pursh's love grass

Poa caroliniana Spreng. Mant. Fl. Hal. 33. 1807

Poa tenella Pursh, Fl. Am. Sept. 80. 1814. Not L.

Eragrostis Purshii Schrad. Linnaea 12: 451. 1838

In dry places. Frequently a weed in many localities, especially along railroads. Not reported from the Adirondack and other northern sections of the State.

Albany, *Clinton* (36th Rep't N. Y. State Mus. 40. 1884). Yonkers, *E. C. Howe* (35th Rep't N. Y. State Mus. 131. 1884). Apalachin, Tioga county, *Fenno* (Clute, Fl. Upper Susquehanna 131. 1898). Monroe county (Proc. Roch. Acad. 3: 127. 1896; 5: 33, 78. 1910-17). Glenmont, Albany county, *House*. Oneida lake, *House*.

- 5 **Eragrostis Eragrostis** (L.) Beauv. Agrost. pl. 14. f. 11. 1812
Low love grass

Poa Eragrostis L. Sp. Pl. 68. 1753

E. poaeoides Beauv., l.c. 162

E. minor Host, Fl. Austr. 1: 135. 1827

In waste grounds and cultivated soil. Frequent throughout the State, and usually common about cities and towns. Naturalized from Europe.

- 6 **Eragrostis peregrina** Wiegand, Rhodora 19: 95. 1917.—Long, Rhodora 21: 133-140. 1919

Related to *E. caroliniana*. Described from plants adventive along railroad at Ithaca, N. Y. Not common but widely distributed around the world as a weed. Native region unknown.

- 7 **Eragrostis cilianensis** (All.) Link; Vignola-Lutati in Malpighi 18: 386. 1904
Strong-scented love grass

Briza Eragrostis L. Sp. Pl. 70. 1753

Poa cilianensis All. Fl. Ped. 2: 246. t. 91, f. 2. 1785

P. megastachya Koel. Descr. Gram. 181. 1802

P. multiflora Forsk. Fl. Aeg.—Arab. 21. 1775. Not *E. multiflora* (Roxb.) Trin. 1830

- P. Eragrostis* Cav. Icon. 1: 63. t. 92. 1791. Not Linn.
Briza oblonga Moench, Meth. 185. 1794
E. major Host, Gram. Austr. 4: 14. pl. 24. 1809
E. poaeoides var. *megastachya* Gray, Man. ed. 2, 563. 1856
E. megastachya Link, Hort. Berol. 1: 187. 1821

In waste places. Frequent throughout the State, especially about cities, railroad yards etc. Naturalized from Europe.

- 8 *Eragrostis pectinacea* (Michx.) Nees, Fl. Afr. Austr. 406. 1841 Purple love grass

Poa pectinacea Michx. Fl. Bor. Am. 1: 69. 1803

In dry or sandy soil. Frequent in southern New York. Apparently local or rare northward.

Coney Island, *Peck*. Manor, Long Island, *Peck*. Sea Cliff, Long Island, *Wilson*. Apalachin, Tioga county, *Fenno*.

- 9 *Eragrostis hypnoides* (Lam.) B.S.P. Prel. Cat. N. Y. 69. 1888 Smooth creeping love grass

Poa hypnoides Lam. Tabl. Encycl. 1: 185. 1791

E. reptans Nees, Agrost. Bras. 514. 1829

On sandy or gravelly shores. Lake Champlain and the Hudson river, westward and southward, but not in the Adirondacks or Catskills.

Wood and Oneida creeks, Oneida county; head of Oneida lake; Cayuga lake; Potter, Yates county; Penfield and Greece, Monroe county, and shores of Lake Ontario, *Paine* (Cat. Pl. Oneida Co. 170. 1865). Minetto, Oswego county, *C. S. Sheldon*. Apalachin, Tioga county, *Fenno*. Schenectady, *Peck*.

SPHENOPHOLIS Scribn. Rhodora 8: 142. 1906

Eatonia Endl. Gen. 99. 1837. Not Raf. 1819

Reboulea Kunth, Rev. Gram. 1: 341. pl. 84. 1830. Not *Rebouillia* Raddi, 1818

- 1 *Sphenopholis obtusata* (Michx.) Scribn. l.c. 144

Early bunch grass

Aira obtusata Michx. Fl. Bor. Am. 1: 62. 1803

Koeleria truncata Torr. Fl. U. S. 1: 116. 1823

Eatonia obtusata A. Gray, Man. ed. 2, 558. 1856

In dry soil. Rare or local. Not reported from the Adirondacks.

Little Stissing mountain, Dutchess county, *Peck*. Oneida county, *Kneiskern*; Seneca lake, *Gray*; Yates county, *Sartwell* (*Paine*, Cat. Pl. Oneida Co. 168. 1865).

Variable, the usual northern form being var. *lobata* (Trin.) Scribn. A form with sheaths and sometimes the culms and leaves pubescent, is var. *pubescens* (Scribn. & Merr.) Scribn.

2 *Sphenopholis nitida* (Spreng.) Scribn., l.c.

Slender eaton's grass

Aira nitida Spreng., Fl. Hal. Mant. 32. 1807
Eatonia Dudleyi Vasey, Bot. Gaz. 11: 116. 1886
E. nitida Nash, Torr. Club Bul. 22: 511. 1895
E. glabra Nash, in Britton, Man. 1043. 1901

In moist soil and in hilly woods. Infrequent across the southern and western sections of the State.

South Hill, Ithaca, and Cayuga lake, *Dudley* (41st Rep't N. Y. State Mus. 58. 1888). Apalachin, Tioga county, *Fenno*. Binghamton, Broome county, *Clute* (Fl. Upper Susquehanna 131. 1898). Banks of the Genesee river, Monroe county, *Fuller* (Proc. Rochester Acad. 3: 127. 1896). Union Springs, Cayuga county, *Beal* (N. Am. Grasses 2: 492. 1896).

3 *Sphenopholis pallens* (Spreng.) Scribn., l.c. 145

Tall eaton's grass

Aira pallens Spreng., l.c. 33
Eatonia pennsylvanica A. Gray, Man. ed. 2, 558. 1856, in part

In moist woods, meadows and along ditches. Frequent across the State outside of the higher Adirondacks and the coastal plain of Long Island. Robust forms have been designated as var. *major* (Torr.) Scribn. (*Eatonia intermedia* Rydb.)

4 *Sphenopholis pennsylvanica* (L.) Hitchc., Am. Jour. Bot. 2: 305. 1915

Marsh false oat or oat grass

Avena pennsylvanica L. Sp. Pl. 79. 1753
Avena palustris Michx. Fl. Bor. Am. 1: 72. 1803
Tristeum palustris Torr. Fl. N. & Mid. U. S. 1: 126. 1824
T. pennsylvanicum Beauv.; R. & S., Syst. 2: 658. 1817
Sphenopholis palustris Scribn., l.c. 145

In swamps and wet meadows. Rare on Long Island and not reported from the pine-barrens. Rare or local northward to central and western New York.

Little Falls, *Gray*; Ithaca, *Sartwell* (Paine, Cat. Pl. Oneida Co. 172. 1865). Rare near Rochester, *Booth* (Proc. Rochester Acad. 3: 126. 1896). Placed in the genus *Tristeum* by some authorities.

KOELERIA Pers. Syn. 1: 97. 1805

Collinaria Ehrh. Beitr. 4: 147. 1789 (nomina usualia)

Koeleria cristata (L.) Pers., l.c.

Crested hair grass

Aira cristata L. Sp. Pl. 63. 1753

In dry sandy soil. Chemung and Tioga counties westward.

Sullivan's Hill, Chemung county, *Lucy* (Torr. Club Bul. 10: 70. 1883). Apalachin, Tioga county, *Fenno* (*Clute*, Fl. Upper Susquehanna 131. 1898). Campville and Barton, *Fenno*.

UNIOLA L. Sp. Pl. 71. 1753*Trisiola* Raf. Fl. Ludov. 144. 1817*Nevroctola* Raf. Neogent. 4. 1825*Chasmanthium* Link, Hort. Berol. 1: 159. 1829**Uniola laxa** (L.) B.S.P. Prel. Cat. N. Y. 69. 1888

Slender spike grass

Holcus laxus L. Sp. Pl. 1048. 1753*Uniola gracilis* Michx. Fl. Bor. Am. 1: 71. 1803

In sandy soil and borders of sandy swamps. Infrequent or rare on Long Island and Staten Island. Not reported northward.

DISTICHLIS Raf. Jour. Phys. 89: 104. 1819*Brizopyrum* Presl, Rel. Haenk. 1: 280. 1830**Distichlis spicata** (L.) Greene, Bul. Calif. Acad. 2: 415. 1887

Salt grass, marsh spike grass

Uniola spicata L. Sp. Pl. 71. 1753*D. maritima* Raf., l.c.*Festuca distichophylla* Michx. Fl. Bor. Am. 1: 67. 1803*Poa Michauxii* Kunth, Rev. Gram. 1: 111. 1829; Torr. Fl. N. Y. 2: 462. 1843*Brizopyrum boreale* Presl., l.c.

On salt meadows along the coast of Long Island, Staten Island, New York, Westchester and Bronx counties. Common.

BRIZA L. Sp. Pl. 70. 1753**Briza minor** L. Sp. Pl. 70. 1753

Smaller quaking grass

Reported as a rare adventive near New York City. Native of Europe. **Briza media** L., has also been reported as an adventive from neighboring states and in Ontario.

DACTYLIS L. Sp. Pl. 71. 1753**Dactylis glomerata** L., l.c.

Orchard grass

In fields, orchards, meadows and waste places. Common. Naturalized from Europe.

CYNOSURUS L. Sp. Pl. 72. 1753**Cynosurus cristatus** L., l.c.

Dog's-tail grass

In fields and waste places. Native of Europe. Naturalized or adventive as a weed about the larger cities and towns. Not common.

POA L. Sp. Pl. 67. 1753**Poa annua** L. Sp. Pl. 68. 1753 Annual or Dwarf spear grass

In waste and cultivated grounds. Common. Naturalized from Europe.

- 2 ***Poa laxa*** Haenke, in Jirasek, Beob. Riesengeb. 118. 1791
Alpine spear grass

An arctic-alpine grass found in this State only on the summit of Mount Marcy (Torrey, Fl. N. Y. 2: 456. 1843). Also collected there by *Peck, D. M. White* (1917) and by others.

- 3 ***Poa trivialis*** L. Sp. Pl. 67. 1753
Rough-stalked meadow grass

In meadows and waste places, occasionally or locally frequent or abundant throughout nearly the entire State. Naturalized from Europe.

- 4 ***Poa debilis*** Torrey, Fl. N. Y. 2: 459. 1843
Weak spear grass

In woods and thickets. Frequent or local throughout the State south to Westchester county. Not recorded from Long Island or Staten Island.

- 5 ***Poa nemoralis*** L. Sp. Pl. 69. 1753 European meadow grass
Rare as an introduced plant in waste places or on ballast. Reported from Staten Island. Penn Yan, Yates county, *Sartwell*. Native of Europe and Asia.

- 6 ***Poa palustris*** L. Syst. ed. 10, 874. 1759
Poa triflora Gilib. Exercit. 531. 1792
Poa serotina Ehrh. Beitr. 6: 83 (name only). 1791
Poa riparia Wolff., in Hoffm. Deutschl. Fl. 1: 42. 1800

In swamps or wet places. Frequent and apparently indigenous northward. Reported as *Poa flava* by Peck from the cliffs of Wall-face mountain (N. Y. State Mus. Bul. 54: 960. 1902). Rare and perhaps introduced on Long Island and Staten Island.

Hewlett and Woodmere, Long Island, *Taylor* (Fl. Vic. N. Y. 140. 1915). On ballast, Staten Island, *Hollick & Britton* (Torr. Club Bul. 9: 151. 1882).

- 7 ***Poa pratensis*** L. Sp. Pl. 67. 1753 Kentucky blue grass

In meadows, fields and woods. Common or frequent throughout nearly all sections of the State. Native of Europe, and extensively cultivated in this country. Supposed to be indigenous in the north and west beyond the limits of this State.

- 8 ***Poa sylvestris*** (Torr.) A. Gray, Man. 596. 1848
Sylvan spear grass

Poa compressa var. *sylvestris* Torr. Fl. U. S. 1: 110. 1823

In thickets and meadows. Infrequent or local.

Reported by Taylor as rare and local and apparently adventive in the vicinity of New York City. Monroe county (Proc. Roch. Acad.

3: 128. 1896). Buffalo, *Clinton* (19th Rep't Regents, 202. 1866). North Elba, *Peck*. Menands, *Peck*.

9 *Poa paludigena* Fernald & Wiegand, *Rhodora*, 20: 126. 1918

Recorded by Fernald and Wiegand from bogs and boggy places in Tompkins and Wayne counties. (*P. sylvestris* var. *palustris* Dudley, Cayuga Fl. 128. 1886).

10 *Poa alsodes* A. Gray, *Man.* ed. 2, 562. 1856

Grove meadow grass

In woods and thickets. Common throughout the northern, central and western portions of the State. Rare in the southern tier of counties and not reported from the coastal region.

11 *Poa saltuensis* Fernald & Wiegand, *Rhodora* 20: 122. 1918

Rich or moist woodlands and shores in Tompkins county, *Metcalf*; Chemung county, *Lucy*, and Newcomb, Indian Pass and Lake Colden, Essex county, *House*. Doubtless of wider distribution.

12 *Poa cuspidata* Nutt. in Barton, *Comp. Fl. Phila.* 1: 61. 1818

Short-leaved spear grass

Poa brevifolia Muhl. *Gram.* 138. 1817. Not DC. 1806

Poa brachyphylla Schultes, *Mant.* 2: 304. 1824

In moist or rocky woodlands. Albany county westward and southward. Rare.

Albany, *House* 6052. Penn Yan, Yates county, *Sartwell* (Torrey, *Fl. N. Y.* 2: 457. 1843, as *Poa pungens* Nutt.; Paine, *Cat. Pl. Oneida Co.* 169. 1865).

13 *Poa compressa* L. *Sp. Pl.* 69. 1753

English or canadian blue grass, wire grass

In waste places, cultivated soil and in woods and fields. Common. Naturalized from Europe, and regarded as a native of Asia.

PANICULARIA Fabr. *Enum. Hort. Holmst.* 2: 373. 1763

Glyceria R. Br. *Prodr. Fl. Nov. Holl.* 1: 179. 1810

Neoroloma Raf. *Journ. Phys.* 89: 106. 1819

1 *Panicularia laxa* Scribn. *Torr. Club Bul.* 21: 37. 1894

Northern manna grass

Glyceria laxa Scribn.; Rand & Redf. *Fl. Mount Desert*, 180. 1894

In shallow water or wet soil. Frequent in the northern parts of the State. Rare or local southward.

Rare on and near the Hempstead plains and elsewhere in southeastern Long Island, *Taylor* (*Fl. Vic. N. Y.* 142. 1915). Edmond's

ponds and North Elba, *Peck*. Loon Lake Station, *Peck* (N. Y. State Mus. Bul. 54: 946. 1902). Lake Placid and Indian Pass, *House*. Apalachin, Tioga county, *Fenno*.

- 2 *Panicularia canadensis* (Michx.) Kuntze, Rev. Gen. Pl. 783. 1891
Rattlesnake grass, tall quaking grass

Briza canadensis Michx. Fl. Bor. Am. 1: 71. 1803

Glyceria canadensis Trin. Mem. Acad. St Petersburg. (VI.) Math. Phys. Nat. 1: 366. 1830

In swamps and marshes. Common except in the pine-barrens of Long Island. Generally uncommon or rare in the southern part of the State and in the counties bordering on Pennsylvania.

- 3 *Panicularia obtusa* (Muhl.) Kuntze, Rev. Gen. Pl. 783. 1891
Blunt manna grass

Poa obtusa Muhl. Gram. 147. 1817

Glyceria obtusa Trin. l.c. 366

In swamps and wet woods. Long Island and Staten Island. Infrequent. Riverhead, *Peck* (33d Rep't N. Y. State Mus. 18. 1880). Babylon, *House*.

- 4 *Panicularia melicaria* (Michx.) Hitchc. Contr. U. S. Nat. Herb. 12: 149. 1908
Slender manna grass

Panicum melicaria Michx. Fl. Bor. Am. 1: 50. 1803

Poa elongata Torr. Fl. N. & Mid. U. S. 1: 112. 1824. Not Willd. 1809

Poa Torreyana Spreng. Neue Entdeck. 2: 104. 1821

Panicularia elongata Kuntze, Rev. Gen. Pl. 783. 1891

P. Torreyana Merrill, Rhodora 4: 146. 1902

G. Torreyana Hitchc. Rhodora 8: 211. 1906

G. melicaria Hubbard, Rhodora 14: 186. 1912

In wet woods and marshes. Frequent or common throughout the Adirondack region and northern counties. Less common or rare southward to Dutchess and Tioga counties and westward.

Raybrook, *Peck*. Averyville marsh, *D. M. White*. Fourth lake, Herkimer county, *House*. Newcomb, *House*. Caroga, Fulton county, *Peck*. Canada lake, Fulton county, *A. Olsson*. Averill Park, Rensselaer county, *House*. Shushan, Washington county, *Dobbin*. Hudson Falls, *Burnham*. Bridgewater, Oneida county, *Gray*. Monroe county, rare (Proc. Roch. Acad. 3: 128. 1896). Pine Plains, Dutchess county, *Peck*. Tioga county, *Fenno*.

- 5 *Panicularia nervata* (Willd.) Kuntze, Rev. Gen. Pl. 783. 1891
Nerved manna grass

Poa nervata Willd. Sp. Pl. 1: 389. 1797

Glyceria nervata Trin. Mem. Acad. St Petersburg. (VI.) Math. Phys. Nat. 1: 365. 1830

G. Michauxii Kunth, Rev. Gram. 1: 118. 1829

Poa striata Michx. Fl. Bor. Am. 1: 69. 1803

In wet places, especially in marshes, bogs and wooded swamps. Common throughout the Adirondack region and the northern counties and from the Hudson valley westward to Lake Erie. Less common in the southern counties and rare on Long Island.

The low strict form, forma **stricta** (Scribn.) House, comb. nov. (*Glyceria nervata* var. *stricta* Scribn.), occurs in Indian Pass, *House*, and perhaps elsewhere northward.

Hydrocyanic acid has been found in this grass, and some cases of cattle poisoning have been ascribed to it (See Alsberg & Black, Jour. Biol. Chem. 21: 601. 1915).

- 6 *Panicularia grandis* (S. Wats.) Nash, in Britton & Brown, Illus. Fl. ed. 2, 1: 265. 1913 Tall manna grass

Poa aquatica var. *americana* Torr. Fl. N. & Mid. U. S. 1: 108. 1824

Glyceria spectabilis (Mart. & Kock, misapplied by) Trin., l.c. 365

Glyceria aquatica Torr. Fl. N. Y. 2: 464. 1843

G. grandis S. Wats., Gray's Man. ed. 6, 667. 1890

Panicularia americana MacM. Met. Minn. Val. 81. 1892

In wet soil. Common or frequent northward and westward in the State. Rare on Long Island and not reported from Staten Island.

- 7 *Panicularia pallida* (Torr.) Kuntze, Rev. Gen. Sp. 783. 1891 Pale manna grass

Windsoria pallida Torr. Cat. Pl. N. Y. 91. 1819

Glyceria pallida Trin., l.c.

Poa dentata Torr. Fl. N. & Mid. U. S. 1: 107. 1824; Fl. N. Y. 2: 461. 1843

In shallow water and marshy places. Frequent or common northward. Less common or rare in the western counties and in the southern part of the State.

Montauk Point, *Peck*. Island of New York, western part of the State and abundant on shores of Oneida lake, *Torrey* (Fl. N. Y. 2: 461. 1843). Borders of Canaderaga lake outlet; Richfield and Exter, Otsego county; Wood creek near New London, *Kneiskern*; abundant on the shores of Oneida lake; western New York, *Gray*; Gorham, Seneca county, *Sartwell* (Paine, Cat. Pl. Oneida Co. 169. 1865). Wayne and Monroe counties (Proc. Roch. Acad. 3: 128. 1896; 5: 78. 1917). North Elba, *Peck*. East Greenbush, Rensselaer county, *Fitch*. Apalachin, Tioga county, *Fenn*. Fine, St Lawrence county, *Mrs O. P. Phelps*.

- 8 *Panicularia Fernaldii* (Hitchc.) House N. Y. State Mus. Bul. 233-234: 11. 1922. Fernald's manna grass

Glyceria pallida var. *Fernaldii* Hitchc. Rhodora 8: 211. 1906

G. Fernaldii St John, Rhodora 19: 75, 76. 1917

Wet or marshy shores, sometimes in shallow water. Infrequent or rare from Dutchess county northward to the Canadian border and the St Lawrence.

Fourth lake, Herkimer county, *House*. Stissing mountain, *Peck*.

- 9 *Panicularia septentrionalis* (Hitchc.) Bicknell, Torr. Club. Bul. 35: 196. 1908
Floating manna grass

Glyceria septentrionalis Hitchc. Rhodora 8: 211. 1906

In wet places and shallow water. Frequent throughout the Adirondack region and the northern counties. Rare southward.

In the Bronx, Westchester county and on Staten Island, *Taylor* (Fl. Vic. N. Y. 143. 1915). Greenport, Long Island, *Latham* (Torreya 14: 232. 1914). Occasional (Clute, Fl. Upper Susquehanna 132. 1898). Infrequent (Proc. Roch. Acad. 3: 128. 1896). Penn Yan, Yates county, *Sartwell*, as *G. fluitans*. Raybrook, Essex county, *Peck*, as *G. fluitans*. Verona, Oneida county, *Peck*. Marshy shores of Lake Pleasant and its outlet, Hamilton county, *House*. Tupper Lake, *House*.

- 10 *Panicularia borealis* Nash, Torr. Club Bul. 24: 348. 1897
Northern manna grass

G. fluitans var. *angustata* Vasey, Proc. Portland Soc. Nat. Hist. 2: 91. 1895
G. borealis Batch. Proc. Manchester Inst. 1: 74. 1900

In shallow water and in marshes. Frequent or local northward. Rare southward in the State. Not reported from the western counties.

Cairo, Greene county, *Nash*; Geneva, *Brewer & Chickering* (cited by Nash). Lansingburg, Rensselaer county, *Howe*. Caroga, Fulton county, and Cascade lakes, Essex county, *Peck* (N. Y. State Mus. Bul. 28: 645. 1899; 34th Rep't 56. 1881; 38th Rep't 108. 1885, as *G. fluitans*). Fourth lake, Herkimer county, *House*. Loon Lake Station, Franklin county, *Peck*. Fulton county, *A. Olsson*, Borders of Hidden lake, Litchfield, Herkimer county, *Haberer*. Pecksport, Madison county, *House*. Apalachin, Tioga county, *Fenno*, Hammond, St Lawrence county, *Mrs O. P. Phelps*.

- 11 *Panicularia fluitans* (L.) Kuntze, Rev. Gen. Pl. 782. 1891
Floating manna grass

Festuca fluitans L. Sp. Pl. 75. 1753

Glyceria fluitans R. Br. Prodr. 1: 179. 1810

Panicularia brachyphylla Nash, Torr. Club Bul. 24: 349. 1897

In shallow water near New York City. Perhaps adventive from Europe. Rare in the Bronx and near Tappantown, Rockland county, *Taylor* (Fl. Vic. N. Y. 144. 1915).

- 12 *Panicularia acutiflora* (Torr.) Kuntze, l.c. 783
Sharp-scaled manna grass

Glyceria acutiflora Torr. Fl. N. & Mid. U. S. 1: 104. 1824

In wet places. Rare and local. Reported from Albany county southward and westward to Tompkins county.

Island of New York and at Fishkill, *Torrey* (Fl. N. Y. 2: 464. 1843). Scattered, very rare in the pine-barrens, *Taylor* (Fl. Vic. N. Y. 144. 1915). Ithaca, *Sartwell* (Sartwell herbarium). North Albany, *Peck*. Apalachin, Tioga county, *Fenno*. Montauk, Long Island, *Peck*.

PUCCINELLIA Parl. Fl. Ital. 1: 366. 1848

Atropis Ruprecht, (Fl. Samoied. Cisural. 2: 61, 64. 1846) — Griseb. in Ledeb. Fl. Ross. 4: 388. 1853

1 *Puccinellia distans* (L.) Parl., l.c. 367. Spreading meadow grass

Poa distans L. Mant. 1: 32. 1767

Glyceria distans Wahl. Fl. Ups. 36. 1820

Sclerochloa distans Bab. Man. Brit. Bot. 370. 1843

Atropis distans Griseb., l.c.

Panicularia distans Scribn. Torr. Club Mem. 5: 54. 1894

On salt meadows, sea beaches and in waste places. Native of Europe and apparently adventive or naturalized in this country.

Staten Island, *Hollick & Britton* (Torr. Club Bul. 18: 214. 1891). Penn Yan, *Sartwell*. Liverpool, Onondaga county, *House*. Near Syracuse, *Bissell, Ware & Weatherby* (Rhodora 18: 12. 1916).

Var. *tenuis* (Uechtr.) Fernald & Weatherby, Rhodora 18: 12. 1916. Reported from near Liverpool, Onondaga county, *Fernald & Wiegand* (Rhodora 25: 208. 1923)

2 *Puccinellia rupestris* (With.) Fernald & Weatherby, Rhodora 18: 10. 1916

Poa rupestris With. Arr. Br. Pl. ed. 3, 2: 146. t. 26. 1796

Poa procumbens Curtis, Fl. Lond. Fasc. vi, t. 11. 1796

Sclerochloa procumbens Beauv. Agrost. 98. 1812

S. rupestris Britten & Rendle, Jour. Bot. 45: 107. 1907

Native of the Old World. Reported by Fernald & Weatherby (l.c.) from ballast grounds near New York City, *Addison Brown*, 1880.

3 *Puccinellia fasciculata* (Torr.) Bicknell, Torr. Club Bul. 35: 197. 1908
Torrey's meadow grass

Poa fasciculata Torr. Fl. N. & Mid. U. S. 1: 107. 1824

Poa delawareica Link, Hort. Berol. 1: 174. 1827

Sclerochloa Borreri Bab. in Engl. Bot. Suppl. 3: t. 2797. 1837

S. arenaria var. *fasciculata* Gray, Man. 594. 1848

Atropis Borreri Richter, Pl. Eur. 1: 92. 1890

Puccinellia Borreri Hitchc. Rhodora 10: 65. 1908

On salt marshes and in brackish meadows. Common along the Atlantic coast. Rarely also on ballast. Collected at Onondaga lake, *Haberer* No. 3301.

Puccinellia paupercula (Holm) Fernald & Weatherby, an arctic species, represented in eastern America by Var. *alaskana* (Scribn. & Merr.) Fernald & Weatherby (Rhodora 18: 18. 1916), is recorded southward to the lower

St Lawrence and the coast of Connecticut, but has not been reported from New York.

Puccinellia airoides (Nutt.) Watson & Coulter, is recorded by Fernald & Weatherby (*Rhodora* 18: 16. 1916) as adventive eastward to Vermont and Maine, and may be looked for in New York.

4 **Puccinellia maritima** (Huds.) Parl. Fl. Ital. 1: 379. 1848

Poa maritima Huds. Fl. Ang. 35. 1762

Glyceria maritima Wahlenb. Fl. Gothob. 17. 1820

Sclerochloa arenaria var. *maritima* Gray, Man. 594. 1848

Atropis maritima Griseb. in Ledeb. Fl. Ross. 4: 389. 1853

Panicularia maritima Scribn. Torr. Club Mem. 5: 54. 1894

In salt marshes and on saline or brackish shores. Native of Europe and recorded by Fernald & Weatherby (l.c. 7), on the Atlantic coast from Nova Scotia southward to Pennsylvania. Definite records for New York State are lacking, but the species will doubtless be found along or near the coastal region of the State.

FESTUCA L. Sp. Pl. 73. 1753

Vulpia C. C. Gmel. Fl. Bad. 1: 8. 1805

Schedonorus Beauv. Ess. Agrost. 99. t. 19. f. 2. 1812

Chloa Mnia Raf. Neogen. 4. 1825

Dasiola Raf., l.c.

1 **Festuca myuros** L., l.c. 74.

Rat's-tail fescue grass

Vulpia myuros C. C. Gmel., l.c.

In waste places and in fields. Rare in the southeastern part of the State. Naturalized from Europe.

2 **Festuca octoflora** Walt. Fl. Car. 81. 1788

Slender fescue grass

F. tenella Willd. Sp. Pl. 1: 419. 1797

Vulpia octoflora Rydb. Torr. Club Bul. 36: 538. 1909

In dry, sandy or stony soil. Infrequent or locally abundant.

Wallface mountain, *Peck*. Penn Yan, *Sartwell*; Monroe county Booth (Paine, Cat. Pl. Oneida Co. 170. 1865). Wayne county *Hankenson* (Proc. Rochester Acad. 3: 128. 1896).

3 **Festuca bromoides** L., Sp. Pl. 75. 1753

Vulpia bromoides S. F. Gray, Nat. Arr. Br. Pl. 2: 124. 1821

Native of Europe. Collected as a waif at Hewlett, Long Island, *Taylor* (Fl. Vic. N. Y. 145. 1915).

4 **Festuca rubra** L. Sp. Pl. 74. 1753

Red fescue grass

Brackish meadows and in low or moist sandy soil, chiefly near the coast. Also locally inland (Narrowsburg, Sullivan county and Caroga, Fulton county, *Peck*), where probably naturalized from Europe. Sand dunes along Lake Ontario, Woodville, Jefferson county, *House*.

5 **Festuca ovina** L. Sp. Pl. 73. 1753. Sheep's fescue grass

In fields and waste places. Locally abundant in the southern part of the State as a weed, probably naturalized from Europe. Northward the typical form is doubtless indigenous in the Adirondacks and along Lake Ontario.

Wallface mountain, *Peck*. White Lake, *Haberer*. Banks of the Genesee river (Proc. Rochester Acad. 3: 128. 1896).

Var. **hispidula** Richter, Pl. Europ. 1: 93. 1890

In waste places. Sparingly introduced in the southern part of the State. Native of Europe.

Var. **duriuscula** (L.) Koch, Synops. 312. 1837

F. duriuscula L. Sp. Pl. 74. 1753

Commonly known as "Hard Fescue." Native of Europe and occasionally naturalized in sandy or waste places in Essex, Albany, Jefferson, Monroe, Oneida and Erie counties, and doubtless elsewhere throughout the State.

6 **Festuca capillata** Lam. Fl. Franc. 3: 597. 1778

F. tenuifolia Sibth. Fl. Oxon. 44. 1794

F. paludosa Gaud. Agrost. Helv. 1: 229. 1811

F. ovina var. *capillata* Hack. Bot. Centr. 8: 405. 1881

Native of Europe and sparingly naturalized about towns and cities of eastern and southern New York.

7 **Festuca elatior** L. Sp. Pl. 75. 1753

Tall or meadow fescue grass

F. pratensis Huds. Fl. Angl. 37. 1762

F. poaeoides Michx. Fl. Bor. Am. 1803

In fields and waste places. Native of Europe. Cultivated and common as a naturalized grass in most sections of the State.

8 **Festuca obtusa** Spreng. Mant. Fl. Hal. 34. 1807

Nodding fescue grass

F. nutans Spreng., l.c. Not Moench, 1794

In rocky or dry woodlands and on shaded banks. Frequent or locally common throughout the State, but rare on Long Island and Staten Island.

9 **Festuca gigantea** (L.) Villars, Hist. Pl. Dauph. 2: 110. 1787

Great fescue grass

Bromus gigantea L. Sp. Pl. 77. 1753

Reported from near Dobb's Ferry, *Rev E. E. Butler* (Porter in Torr. Club Bul. 8: 129. 1881). Adventive from Europe.

BROMUS L. Sp. Pl. 76. 1753

Ceratochloa Beauv. Ess. Agrost. 75. t. 15. f. 7. 1812
Zerna Panz, Denkschr. Baier. Akad. Wiss. Muench. 4: 296. 1813
Serrafalcus Parl. Rar. Pl. Sic. 2: 14. 1840

Sect. *Stenobromus* Griseb

1 ***Bromus tectorum*** L., l.c. 77 Downy brome grass
 In fields and waste places. Naturalized from Europe and a common weed in many places.

2 ***Bromus sterilis*** L., l.c. 77 Barren brome grass
 In waste places and on ballast. Locally common. Naturalized or adventive from Europe.

3 ***Bromus asper*** Murr. Prodr. Stirp. Goett. 42. 1770
 Native of Europe and rare as an adventive in southern New York.

Sect. *Zerna* (Panzer) Ledeb.

4 ***Bromus ciliatus*** L., l.c. 76 Fringed brome grass, wood chess
B. canadensis Michx. Fl. Bor. Am. 1: 65. 1803

In woods and thickets. Frequent or common northward and westward in the State. Less abundant southward and very rare or largely absent on Long Island and Staten Island.

West Albany, *Peck*. Morehouseville, Hamilton county, *Peck*. Near North Elba and McKenzie pond, Essex county, *Peck*. Trenton Falls, Oneida county, *House*. Newcomb, Essex county, *House*. Penn Yan, Yates county, *Sartwell*. Common in Monroe county (Proc. Rochester Acad. 3: 129. 1896).

Two forms, viz: ***denudatus*** and ***laeviglumis*** are described by Wiegand (*Rhodora* 24: 91. 1922), the latter based upon *Bromus ciliatus laeviglumis* Scribn. (in Shear, Bul. U. S. Dept. Agric. Div. Agrost. 23: 32. 1900).

5 ***Bromus purgans*** L., l.c. 76 Hairy wood chess
B. ciliatus var. *purgans* A. Gray, Man. 600. 1848

Moist rocky woodlands and banks. Infrequent or local southward in the State.

Port Jervis, *Peck*. Genesee river banks (Proc. Rochester Acad. 3: 129. 1896). Staten Island, Pine Plains, Dutchess county and in the Catskills, *Taylor* (Fl. Vic. N. Y. 147. 1915).

6 ***Bromus latiglumis*** (Scribn.) Hitchc. *Rhodora* 8: 211. 1906
 Tall wood chess

B. altissimus Pursh, Fl. Am. Sept. 2: 728. 1814. Not Gilib. 1792
B. purgans var. *latiglumis* Scribn.; Shear, U. S. Dept. Agric. Div. Agrost. Bul. 23: 40. 1900

Woods and banks. Infrequent from Rensselaer county westward and southward.

North Greenbush, Rensselaer county, *Peck*. Rathboneville, Steuben county, *Peck*. Oxford, Chenango county, *Corville*. Along Oneida creek, Madison county, *House*.

7 **Bromus incanus** (Shear) Hitchc. *Rhodora* 8: 212. 1906

Hoary wood chess

B. purgans var. *incanus* Shear, l.c. 41

Wooded hills. Rare. Essex county, on the banks of the Ausable river, *Peck*.

The range of this species is given as "Pennsylvania to Virginia, westward to South Dakota and Texas," and its occurrence in Essex county is rather remarkable unless intermediate localities, connecting its range with Pennsylvania, should be found. Wiegand (*Rhodora* 24: 91. 1922) reduces this to a form of *B. altissimus* Pursh, which is an untenable name.

8 **Bromus erectus** Huds. Fl. Angl. 39. 1762

Upright brome grass

B. Macounii Vasey, Torr. Club Bul. 15: 48. 1888

In waste places. A rather rare adventive from Europe.

9 **Bromus inermis** Leyss. Fl. Hal. 16. 1761

Hungarian or awnless brome grass

In fields and waste places. An infrequent adventive from Europe. Apparently naturalized in some localities.

Menands, Albany county, *Peck*. Vaughns, Washington county, *Burnham*. Collins, Erie county, *Perkins*. Norfolk, St Lawrence county, *Mrs O. P. Phelps*. East Rochester, *Baxter*. Sylvan Beach, Oneida county, *House*.

10 **Bromus Kalmii** A. Gray, Man. 600. 1848 Wild or Kalm's grass

B. ciliatus Muhl. Gram. 169. 1817. Not L. 1753

B. purgans Torr. Fl. N. Y. 2: 468. 1843. Not L. 1753

In woods and thickets. Locally frequent across the State north of the Hudson highlands. Not reported from south of Westchester county.

Banks of the Mohawk and Fish creek, *Kuciskern*; Utica, *Gray*; Black river, Jefferson county and at Dexter, *Vasey*; shores of Seneca lake, *Gray* (Paine, Cat. Pl. Oneida Co. 170. 1865). Chemung and Tioga counties, *Clute* (Fl. Upper Susquehanna 132. 1898). Not common (Proc. Rochester Acad. 3: 128. 1896; 5: 79. 1917). Bethlehem, Albany county, *Peck*. Whitehall, Washington county, *Peck*. Not reported from the higher Adirondacks.

Sect. *Eubromus* Godron

- 11 *Bromus hordeaceus* L., l.c. 77 Soft chess

B. mollis L. Sp. Pl. ed. 2, 112. 1762

In fields and waste places. Infrequent or locally abundant as a naturalized weed. Native of Europe. Especially abundant in the southeastern part of the State and about cities and towns northward and westward across the State.

Forma *leptostachys* (Pers.) Wiegand (*Rhodora* 24: 90. 1922) is based upon *B. mollis leptostachys* Pers. (Syn. 1: 95. 1805).

- 12 *Bromus secalinus* L. Sp. Pl. 76. 1753 Common cheat or chess

In fields and waste places, often a troublesome weed. Native of Europe and naturalized in nearly all of the settled and agricultural portions of the State.

- 13 *Bromus racemosus* L. Sp. Pl. ed. 2, 114. 1762

Smooth brome grass

In fields and waste places. Naturalized from Europe and locally abundant in many sections of the State.

- 14 *Bromus commutatus* Schrad. Fl. Germ. 1: 353. 1806

In fields and waste places. Naturalized from Europe in many sections of the State.

- 15 *Bromus arvensis* L. Sp. Pl. 77. 1753 Field chess or brome

In fields and waste places. Locally adventive from Europe.

Yonkers, *E. C. Howe*. Menands, Albany county, *Peck*. Troy, *H. C. Gordinier* (41st Rep't N. Y. State Mus. 59. 1888).

- 16 *Bromus squarrosus* L., l.c. 76 Corn brome

In ballast and in waste places about the eastern seaports, and at Lansingburg, Rensselaer county, *E. C. Howe*.

- 17 *Bromus japonicus* Thunb. Fl. Jap. 51. t. 11. 1784

Native of eastern Asia. Adventive in waste places, Rochester, *D. M. White* (1922).

- 18 *Bromus brizaeformis* Fisch. & Mey. Ind. Sem. Hort. Petrop. 3: 30. 1836 Quakegrass or awnless brome

Native of southern Europe and Asia. Occasional in cultivation as a semiornamental grass and rarely adventive or escaped. Menands, Albany county, *Peck*.

- 19 **Bromus unioloides** (Willd.) H. B. K. Nov. Gen. & Sp. 1: 151.
1816 Rescue grass, southern chess

Festuca unioloides Willd. Hort. Berol. 1: 3. pl. 3. 1806

B. Schraderi Kunth, Enum. 1: 416. 1833

Native of the southeastern states and Mexico. Established or escaped from cultivation at Menands, Albany county, *Peck*.

NARDUS L. Sp. Pl. 53. 1753

- Nardus stricta** L., l.c. Wire bent, mat grass, nard

Canada lake, Fulton county, *A. Olsson*, 155. Adventive from Europe.

LOLIUM L. Sp. Pl. 83. 1753

- 1 **Lolium perenne** L., l.c. English or perennial rye grass

In waste places, cultivated ground and fields. Common. Naturalized from Europe.

- 2 **Lolium multiflorum** Lam. Fl. Franc. 3: 621. 1778

Awned or Italian rye grass

L. italicum A. Br. Flora 17: 241. 1834

In fields and waste places, eastern and southern parts of the State, and near the larger cities and towns across the State south of the Adirondacks. Naturalized or adventive from Europe.

- 3 **Lolium temulentum** L. Sp. Pl. 83. 1753

Darnel, poison darnel

In waste places and cultivated ground. Locally naturalized or adventive from Europe.

Menands, Albany county, *Peck*. Monroe and Wayne counties, (Proc. Roch. Acad. 3: 129. 1896; 5: 33. 1910). Also reported from Little Falls (Paine, Cat. Pl. Oneida Co. 171. 1865).

AGROPYRON J. Gaertn. Nov. Comm. Petrop.

14: Part 1, 539. 1770

- 1 **Agropyron repens** (L.) Beauv. Agrost. 102, 146. 1812

Couch grass, quitch grass

Triticum repens L. Sp. Pl. 86. 1753

In fields and waste places, meadows and cultivated ground. Often a troublesome weed. Naturalized from Europe.

Var. **littoreum** Anderss. Pl. Scand. Gram. 5. 1852. Sand dunes along the coast of Long Island, *Bicknell* (Torr. Club Bul. 35: 200. 1908).

Var. **pilosum** Scribn. Fl. Mt. Desert Isl. 183. 1894. Bald mountain, Rensselaer county, *Peck*; Apalachin, Tioga county, *Fenno*, and doubtless elsewhere.

Var. **nemorale** Anderss., l.c. Nearly as common as the typical form of the species.

2 **Agropyron violaceum** (Hornem.) Lange, Consp. Fl. Groenland 3: 155. 1880 Purplish wheat grass

Triticum violaceum Hornem. Fl. Dan. 12: t. 2044. 1832

A. biflorum A. Gray, Man. ed. 7, 166. 1908; Britton & Brown, Illus. Fl. ed. 2, 1: 285. 1913

Wooded mountain slopes. Rare.

Near summit of "Round Top," Cairo, Greene county, *Taylor* (Fl. Vic. N. Y. 148. 1915).

3 **Agropyron tenerum** Vasey, Bot. Gaz. 10:258. 1885 Slender wheat grass

A. novae-angliae Scribn. in Jones, Contr. Bot. Vt. 8: 103. 1900

A. caninum var. *tenerum* Pease & Moore, Rhodora 12: 71. 1910

In dry soil. Rare.

Brownville, Jefferson county and Adirondack mountains, *Peck* (N. Y. State Mus. Bul. 139: 19. 1910; 34th Rep't N. Y. State Mus. 42. 1881, as *A. violaceum*). Mount Zoar, Chemung county, *T. F. Lucy*, 11603 (cited by Pease & Moore, l.c.). Indian Pass and Tahawas, Essex county, *House*.

4 **Agropyron caninum** (L.) Beauv. Agrost. 102, 146. 1812 Bearded or awned wheat grass

Triticum caninum L. Sp. Pl. 86. 1753

Native of Europe and sparingly naturalized in cultivated or waste grounds.

Penn Yan, Yates county, *Sartwell*. Frequent (Proc. Roch. Acad. 3: 129. 1896). Mount Defiance, southeastern corner of Essex county, *Peck*. Axton, Hamilton county, *Rowlee*, *Wiegand & Hastings* (cited by Pease & Moore, l.c.).

The var. **unilaterale** (Cassidy) Vasey, forma **ciliatum** (Scribn. & Sm.) Pease & Moore, Rhodora 12: 76. 1910, is reported from Buffalo (*G. W. Clinton*), by Pease & Moore, l.c.

HORDEUM (Tourn.) L. Sp. Pl. 84. 1753

1 **Hordeum jubatum** L. Sp. Pl. 85. 1753 Squirrel-tail grass

Native along the coast from Labrador to New Jersey and naturalized inland on waste and cultivated ground.

Apalachin, Tioga county, *Fenno*. Watkins, *D. Beach*. Vaughans, Washington county, *Burnham*. Albany, *House*. Onondaga lake, *House*. Several localities in Monroe county (Proc. Roch. Acad. 3: 129. 1896; 5: 79. 1917). St Lawrence county, *Mrs O. P. Phelps*.

2 **Hordeum murinum** L. Sp. Pl. 85. 1753. Wall barley, way bent
On ballast and sparingly or rarely adventive in waste places about
New York City. Adventive from Europe.

3 **Hordeum vulgare** L. Sp. Pl. 84. 1753 Barley

Persistent or occasionally spontaneous after cultivation. Scarcely
naturalized although extensively cultivated. Native of the old world.

Hordeum hexastichon L. (six-row barley); **H. distichon** L.
(two-row barley) and **H. zeocriton** L. (rice barley) are usually
considered as races of *H. vulgare*. Beardless barley (**H. vulgare**
var. **trifurcatum** (Schlecht.) Wenderoth) is a variety of the six-row
barley (See Schultz, Mitt. Natf. Ges. Halle 1: 18. 1911).

TRITICUM L. Sp. Pl. 85. 1753

Triticum aestivum L., l.c. Wheat

T. vulgare Vill. Hist. Pl. Dauph. 2: 153. 1786

Wheat in its many varieties is one of the most important of the
true grasses and is probably the oldest of cultivated cereals. Its
origin is uncertain but it has been suggested that *Triticum*
aegilops Beauv. of southern Europe may have in prehistoric
times given rise under cultivation to the present form. The numer-
ous varieties are distinguished by the firmness of the axils of the
spike (continuous) or its brittleness (articulation); by the presence
or absence of awns or beards; by the color of the chaff and the
color, shape and size of the grain. It is often persistent for a few
seasons after cultivation and even shows a tendency to maintain
itself in a wild condition along roads, edges of fields and waste
ground until choked out of existence by weeds and other plants.

SECALE (Tourn.) L. Sp. Pl. 84. 1753

Secale cereale L., l.c. Rye

Common in cultivation and like the wheat, often persistent in some
localities after cultivation.

ELYMUS L. Sp. Pl. 83. 1753

1 **Elymus glaucus** Buckley, Proc. Acad. Phila. 1862: 99. 1863

Smooth wild rye

E. americanus Vasey & Scribn.; Macoun, Cat. Can. Pl. 4: 245. 1888

E. sibiricus var. *americanus* Wats. & Coult. in Gray, Man. ed. 6, 673. 1890

Warrensburg, Warren county, *Peck* (state herbarium, det. Hitch-
cock). Range is usually given as from Ontario and Michigan west-
ward, and the plant may not have been native at Warrensburg.

2 **Elymus virginicus** L., l.c. 84. Virginia wild rye

In moist soil, especially along streams. Frequent or common throughout the State.

Var. **halophilus** (Bicknell) Wiegand, *Rhodora* 20: 83. 1918

E. halophilus Bicknell, Torr. Club Bul. 35: 201. 1908

Infrequent or locally abundant in and on the borders of salt marshes of Long Island, Staten Island, and the Long Island sound shore of Bronx and Westchester counties.

Var. **hirsutiglumis** (Scribn.) Hitchc. *Rhodora* 10: 65. 1908.

E. hirsutiglumis Scribn. U. S. Dept. Agric. Agrost. Bul. 11: 58. 1898

E. canadensis var. *intermedius* Vasey; Wats. & Coulter, in Gray, Man. ed. 6, 673. 1890

E. intermedius Scribn. & Sm. U. S. Dept. Agric. Agrost. Bul. 4: 38. 1897.
Not Bieb. 1808

River banks and woods. Rensselaer county westward and southward across the State.

North Greenbush, Rensselaer county; Riverhead, Long Island and Rathboneville, Steuben county, *Peck* (51st Rep't N. Y. State Mus. 282. 1898). North Bay, Oneida county, *Muenschel*. Wemple, Albany county, *House*. Lawrence and Hewlett, Long Island, *Bicknell* (Taylor, Fl. Vic. N. Y. 150. 1915).

Wiegand (*Rhodora* 20: 84. 1918) records var. **submuticus** Hooker, from Quebec and Massachusetts, and from the central states, but there are no records for New York.

3 **Elymus australis** Scribn. & Smith, U. S. Dept. Agric. Agrost.

Bul. 24: 46. pl. 20. 1901

Southern wild rye

In moist woods and thickets. Wiegand (l.c. 84) gives the distribution as chiefly along the coastal region, from which we have no records for New York. A specimen from Catskill, Greene county, *House*, has been determined by Hitchcock as this species.

Var. **glabriflorus** (Vasey) Wiegand, *Rhodora* 20: 84. 1918.

E. canadensis var. *glabriflorus* Vasey; Dewey, Contr. U. S. Nat. Herb. 2: 550. 1894

E. glabriflorus Scribn. & Ball, U. S. Dept. Agric. Agrost. Bul. 24: 49. f. 23. 1901

Usually on dry banks or in woods. Columbia and Orange counties, Taylor (Fl. Vic. N. Y. 150. 1915).

4 **Elymus riparius** Wiegand, *Rhodora* 20: 84. 1918.

Stream margins, alluvial bottomlands and borders of lakes and ponds. Frequent across the northern and middle sections of the State, outside of the higher mountains, and especially in central New York.

Wiegand (l.c. 85, 86) cites collections from St Lawrence, Orange, and Tompkins counties.

5 *Elymus striatus* Willd. Sp. Pl. 1: 470. 1797 Slender wild rye

E. villosus Muhl. in Willd. Enum. Hort. Berol. 131. 1809

E. striatus var. *villosus* Gray, Man. ed. 5, 639. 1867

In woods and on banks, often in rocky situations.

Frequent or common across the State southward, less frequent northward to the lower portions of Essex and St Lawrence counties.

Var. *arkansanus* (Scribn. & Ball) Hitchc. Rhodora 8: 212. 1906

E. arkansanus Scribn. & Ball, U. S. Dept. Agric. Agrost. Bul. 24: 45. f. 19. 1901

Near Egbertville, Staten Island, Taylor (Fl. Vic. N. Y. 150. 1915). Napanoch, Ulster county, House 8536, 1921.

6 *Elymus canadensis* L. Sp. Pl. 83. 1753. Nodding wild rye

E. philadelphicus L. Amoen. Acad. 4: 266. 1759

E. glaucifolius Willd. Enum. Hort. Berol. 131. 1809

E. canadensis var. *glaucifolius* Torr. Fl. U. S. 1: 137. 1824

On river banks and shores and alluvial thickets. Common across the state northward. Less frequent southward to Columbia, Greene, Otsego and Wyoming counties and probably locally in most sections north of the coastal plain.

7 *Elymus robustus* Scribn. & Sm. U. S. Dep. Agric. Agrost. Bul. 4: 37. 1897 Stout nodding wild rye

Dry sandy, gravelly or rocky soil.

Woodville, Jefferson county, House 8646, 1921. Buck pond, Monroe county, House. Chemung river, Chemung county, Lucy. Lansingburg, Rensselaer county, Peck. Irondequoit bay, D. M. White 65. Moravia, Curtice.

Var. *vestitus* Wiegand, Rhodora 20: 90. 1918

Catskill, Greene county, House. Napanoch, Ulster county, House 8615, 1921.

HYSTRIX Moench, Meth. 294. 1794

Asprella Humb. Magaz. Bot. Roem. & Usteri 7: 5. 1790. Not Schreb. 1789

Gymnostichum Schreb. Besch. Gras. 3: 127. pl. 47. 1810

Hystrix Hystrix (L.) Millsp. Fl. W. Va. 474. 1892

Bottle-brush grass

Elymus Hystrix L. Sp. Pl. 560. 1753

Asprella Hystrix Willd. Enum. 132. 1809

H. patula Moench, l.c.

Gymnostichum Hystrix Schreb., l.c.

In rocky woods. Frequent across the State northward, outside of the higher Adirondacks and Catskills, and apparently absent from Long Island and Staten Island.

Watertown, *House*. Page's Corners, southern Herkimer county; Little Falls and along the Mohawk, *Paine* (Cat. Pl. Oneida Co. 172. 1865). Occasional, *Clute* (Fl. Upper Susquehanna 133. 1898). Apalachin, Tioga county, *Fenno*. Ithaca, *Metcalf*. Frequent (Proc. Rochester Acad. 3: 129. 1896). Penn Yan, Yates county, *Sartwell*. Jamesville, Onondaga county, *House*. Selkirk and Meadowdale, Albany county, *Peck*. Canton, St Lawrence county, *Mrs O. P. Phelps*.

Fernald (Rhodora 24: 230. 1922), described the typical form of the species as possessing glabrous lemmas and being more southern in distribution, and describes the northern form with "densely pilose lemmas" as *Asperella Hystrix* var. *Bigelowiana*.

Family II **CYPERACEAE** J. St. Hil. Expos. Fam. 1: 62. 1805
Sedge family

CYPERUS (Tourn.) L. Sp. Pl. 44. 1753

Chlorocyperus Rikli, in Pringsheim, Jahrb. Wiss. Bot. 27: 563. 1895

I **Cyperus flavescens** L. Sp. Pl. 46. 1753 Yellow cyperus

In marshy ground, southern New York. Infrequent.

Bronx and Westchester counties and on western Long Island and Staten Island, *Taylor* (Fl. Vic. N. Y. 153. 1915). Peekskill, *Meade* (in Beck collection).

2 **Cyperus diandrus** Torrey; Eaton, Man. ed. 2, 226. 1818—Cat.
Pl. N. Y. 90. 1819 Low cyperus

Torreyia maritima Raf. Jour. Phys. 84: 105. 1819

In marshy places. Frequent.

Frequent in western New York (Proc. Rochester Acad. 3: 115. 1896). Watkins, *C. S. Sheldon*. Kinderhook lake, Columbia county, *Peck* (53d Rep't N. Y. State Mus. 853. 1900). The var. **elongatus** Britton (Torr. Club Bul. 19: 226. 1892) at Van Cortlandt Park, New York City. Providence, Saratoga county, *E. A. Burt*. Washington and Saratoga county localities, *Burnham* (Torrey 19: 126. 1919). Woodville, Jefferson county, *House*.

3 **Cyperus rivularis** Kunth, Enum. 2: 6. 1837. Shining cyperus
C. flavescens var. *castaneus* Pursh, Fl. Am. Sept. 52. 1814
C. castaneus Bigel. Fl. Bost. 18. 1824. Not Willd. 1798
C. diandrus var. (?) *castaneus* Torr. Ann. Lyc. N. Y. 3: 252. 1836
C. bicolor Barton, Comp. Fl. Phila. 1: 27. 1817. Not Vahl.
Chlorocyperus rivularis Rikli, l.c.

In wet soil, especially along streams and ponds. Lake Champlain to the St Lawrence river, Lake Ontario and Lake Erie and southward. Locally throughout the Adirondacks below 2,000 feet altitude.

4 *Cyperus filicinus* Vahl, Enum. 2: 332. 1806

Nuttall's cyperus

C. aestuarius Torrey; Eaton, Man. Ed. 2, 227. 1818*C. Nuttallii* Eddy; Spreng. Neue Entdeck. 1: 240. 1820*C. caespitosus* Torr. Cat. Pl. N. Y. 89. 1819. Not Poir.*C. Torreyanus* Schultes, Mant. 2: 101. 1824*Torreyca caespitosa* Raf. Jour. Phys. 84: 105. 1819

In salt marshes and brackish marshes and their borders along the coast of Long Island and Staten Island, and the Long Island coast of Bronx and Westchester counties. Frequent or common.

Fernald (Rhodora 19: 153. 1917) describes var. *microdontus* (Torr.) Fernald (*C. microdontus* Torr. Ann. Lyc. N. Y. 2: 255. 1836), with scales of the spikelets shorter (2 mm.) A depauperate, single-spiked form was described as *C. Cleaveri* Torrey (Ann. Lyc. N. Y. 3: 258. 1836)

5 *Cyperus inflexus* Muhl. Gram. 16. 1817

Awned cyperus

C. aristatus Boeckeler, Linnaea 35: 500, in part. 1868; Gray, Man. ed. 7, 175. 1908. Not Rotth. 1773*C. uncinatus* Pursh, Fl. Am. Sept. 50. 1814. Not Poir.*C. Purshii* R. & S. Syst. 2: 177. 1817

In wet sandy soil along streams and on shores of ponds and lakes. Frequent northward. Rare southward to Columbia and Greene counties and locally at Van Cortland Park, and Mount Vernon, Taylor, westward across the State.

Near Albany, Tracy & Eaton; Oneida lake, Gray, Kneiskern (Paine, Cat. Pl. Oneida Co. 146. 1865). Banks of Hudson near Troy, Wright & Hall (Cat. Pl. Troy, 14. 1836). Chemung and Broome counties, Clute (Fl. Upper Susquehanna 119. 1898). Sodus Bay, and Wayne county (Proc. Rochester Acad. 3: 115. 1896). Fulton, Oswego county, C. S. Sheldon. Cayuga lake, Ithaca, Wiegand. Washington county, Burnham (Torreya 19: 126. 1919). Cambridge, Stevenson (according to Torrey).

6 *Cyperus compressus* L. Sp. Pl. 46. 1753

Flat cyperus

In fields and waste places, southeastern New York. Rare as a weed and probably adventive or naturalized from the South.

7 *Cyperus Iria* L. Sp. Pl. 45. 1753

Yellow cyperus

Native of Asia. Introduced at Hempstead, Long Island (Taylor).

8 *Cyperus Schweinitzii* Torrey, Ann. Lyc. N. Y. 3: 276. 1836

Schweinitz's cyperus

In sandy soil, along the shore of Lake Ontario. Rare.

Sodus Bay, Sartwell; Greece, Monroe county, Bradley; Beach of Lake Ontario near Braddock's Bay, Bradley (Paine, Cat. Oneida Co. 147. 1865); Torrey (Fl. N. Y. 2: 343. 1843; Proc. Rochester Acad. 3: 115. 1896). Irondequoit, Monroe county, Baxter.

- 9 **Cyperus Houghtoni** Torrey, Ann. Lyc. N. Y. 3: 277. 1836
Houghton's cyperus

In sandy soil, along the shores of Lake Champlain and Lake George. Rare.

Port Kent, *Peck* (22d Rep't N. Y. State Mus. 103. 1869, as *C. Grayii*). Fort Edward, *Howe*. Lake George, *William H. Leggett* (Britton in Torr. Club Bul. 18: 369. 1891). Washington county, *Burnham* (Torreya 19: 126. 1919).

- 10 **Cyperus fuscus** L. Sp. Pl. 46. 1753 Brown cyperus

Rare as a weed on ballast in southern New York (*Taylor*); and in waste places at Rochester (*Baxter*). Adventive from Europe.

- 11 **Cyperus dentatus** Torrey, Fl. N. & Mid. U. S. 1: 61. 1824
Toothed cyperus

In sandy swamps and on shores. Frequent throughout the Adirondacks and northern New York. Less common southward and not recorded from the western part of the State.

Shores of Fourth lake, northern Herkimer county and on a sandy point of the north side and at the head of the lake near the inlet from the upper lake, where it occurs in its abnormal state with scales and spikes foliaceous, *Paine* (Cat. Pl. Oneida Co. 146. 1865). Lake Pleasant, Hamilton county, *Peck, House*. Vlei, Fulton county, *C. P. Alexander*. Lake George, *Burnham*. Newcomb, Essex county, *House*. Pond Brook, Broome county, *Clute* (Fl. Upper Susquehanna 119. 1898). Rare on Long Island at Yaphank and Ronkonkoma, recorded from but not definitely known on Staten Island (Torr. Club Bul. 5: 29. 1874), thence scattered up the Hudson valley to Columbia county, but not reported from the Catskills, *Taylor* (Fl. Vic. N. Y. 155. 1915). Middle Island, *House*. Riverhead, *Peck*.

- 12 **Cyperus rotundus** L. Sp. Pl. 45. 1753 Nut grass
C. hydra Michx. Fl. Bor. Am. 1: 27. 1803

Native of the southeastern states and tropical regions. Rare as an adventive on ballast and in waste places near New York City.

- 13 **Cyperus esculentus** L. Sp. Pl. 45. 1753. Yellow nut grass

C. phymatodes Muhl. Gram. 23. 1817
C. repens Torrey, Ann. Lyc. N. Y. 3: 264. 1836
C. repens Torrey, Fl. N. Y. 2: 341. 1843

In moist fields, banks and along shores. Often a troublesome weed in sandy fields. Very abundant in the Hudson valley and westward to Oneida lake and Lake Ontario. Definite data as to its abundance in the northern counties and the western and southeastern parts of the State is lacking.

14 *Cyperus erythrorhizos* Muhl. Gram. 20. 1817

Red-rooted cyperus

In wet or moist soil, especially along streams and shores. Frequent or common in southern New York, but not reported from the Adirondack region, the Catskill mountains, or Staten Island. Rare on Long Island.

15 *Cyperus speciosus* Vahl, Enum. 2: 364. 1806

Michaux's cyperus

C. Michauxianus Schultes, Mant. 2: 123. 1824*C. erythrorhizos* Torrey, Fl. N. & Mid. U. S. 1: 61. 1824. Not Muhl. 1817

Frequent in marshes and wet places, Rensselaer county westward and southward across the State.

Shores of the Hudson above Rensselaer, *House*. Borders of salt marshes near New York and on Long Island; Rochester, *Kneiskern* (Torrey, Fl. N. Y. 2: 340. 1843). Rare in Westchester county, increasing northward, *Taylor* (Fl. Vic. N. Y. 155. 1915). Borders of Oneida lake, *Kneiskern*; Salina, *Carey*; head and east side of Onondaga lake; shore of Lake Ontario; Oswego; Crooked lake, *Sartwell* (Paine, Cat. Pl. Oneida Co. 146. 1865). Frequent on shores of Lake Ontario and in Wayne county (Proc. Rochester Acad. 3: 115. 1896).

16 *Cyperus ferax* L. C. Richard, Act. Soc. Hist. Nat. Paris 1: 106. 1792

Coarse cyperus

In wet soil along the coast. Rare. Orient Point, Suffolk county, *Latham* (in State Herbarium).

17 *Cyperus Engelmanni* Steud. Syn. Pl. Cyp. 47. 1855

Engelmann's cyperus

In wet soil along the coast. Rare. Orient Point, Suffolk county, Bushnell's Basin, Monroe county, *Baxter* (Proc. Rochester Acad. 5: 79. 1917); *House* (in state herbarium). Pittsford, *Baxter*.

18 *Cyperus strigosus* L. Sp. Pl. 47. 1753

Straw-colored cyperus

In moist soil. Frequent or common throughout the State, south of the Adirondacks where it is rare or local, and not recorded from the pine-barrens of Long Island.

Common in the valley of the Mohawk; Whitesboro; plains west of Rome and around Oneida lake, *Paine* (Cat. Pl. Oneida Co. 146. 1865). Reported as common by *Clute* (Fl. Upper Susquehanna 119. 1898), and in Monroe county (Proc. Rochester Acad. 3: 115. 1896).

19 *Cyperus retrofractus* (L.) Torrey, Fl. N. Y. 2: 344. 1843

Rough cyperus

Scirpus retrofractus L. Sp. Pl. 50. 1753*Mariscus retrofractus* Vahl, Enum. 2: 373. 1806

Torrey (l.c.) records this species from Hoboken, New Jersey, and doubtfully from New York. A note in Torrey Club Bul. 5: 29. 1874 states that it had not been found recently in New York, and no authentic records of its occurrence north of New Jersey are to be found.

- 20 **Cyperus Torreyi** Britton, Torr. Club Bul. 13: 215. 1886
Pine-barren cyperus

Mariscus cylindricus Ell., Bot. S. C. & Ga. 1: 74. 1816
C. ovularis cylindricus Torr. Ann. Lyc. N. Y. 3: 279. 1836
Cyperus cylindricus Britton, Torr. Club Bul. 6: 339. 1879. Not Boeckeler, 1859

In sandy pine-barrens and on the sea shore, southern New York. Rare.

- 21 **Cyperus ovularis** (Michx.) Torrey, Ann. Lyc. N. Y. 3: 278. 1836
Globose cyperus

Kyllingia ovularis Michx. Fl. Bor. Am. 1: 29. 1803
Mariscus ovularis Vahl, Enum. 2: 374. 1806

In dry fields and on hills. Rare and local in Westchester county and in the Bronx. Not definitely known from Long Island (Taylor, Fl. Vic. N. Y. 157. 1915).

- 22 **Cyperus filiculmis** Vahl, Enum. 2: 328. 1806
Slender cyperus

Mariscus cyperiformis Torrey, Cat. Pl. N. Y. 14. 1819
C. mariscoides Ell. Bot. S. C. U. Ga. 1: 67. 1816
C. filiculmis var. *macilentus* Fernald, Rhodora 8: 128. 1906
C. macilentus Bicknell, Torr. Club Bul. 35: 478. 1908

In dry or sandy fields and on hills. Frequent or common in eastern and central New York and along the Ontario lowlands to Erie county. Less common northward in sandy localities to Lake Champlain and St. Lawrence county. Common on Long Island and Staten Island. Not reported from the range of Clute's "Flora of the Upper Susquehanna," from the higher Catskills or from the Adirondacks.

- 23 **Cyperus Grayi** Torrey, Ann. Lyc. N. Y. 3: 268. 1836
Gray's cyperus

In sandy soil along the seashore and in the pine-barrens of southern and eastern Long Island. Somewhat local or uncommon.

ELEOCHARIS R. Br. Fl. Nov. Holl. 1: 224. 1810

Trichophyllum Ehrh. Beitr. 4: 147. 1789 (nomina usualia)
Bulbostylis Stev. Mem. Soc. Nat. Mosc. 5: 355. 1814
Heleocharis Lestib. Ess. Cyp. 41. 1819

Megadenus Raf. Neogent. 4. 1825

Chaetocyperus Nees, Linnaea 9: 289. 1834

Limnochloa Beauv. in Lestib., l.c.

Scirpus 2. § *Eleocharis* Kuntze, Rev. Gen. Pl. 757. 1891

Chlorocharis Rikli in Pringsheim, Jahrb. Wiss. Bot. 27: 564. 1895

1 *Eleocharis interstincta* (Vahl) R. Br., l.c.

Knotted spike rush

Scirpus interstinctus Vahl, Enum. 2: 251. 1806

S. equisetoides Ell. Bot. S. C. & Ga. 1: 79. 1816

E. Elliotii A. Dietr., Sp. Pl. 2: 82. 1835

E. equisetoides Torrey, Ann. Lyc. N. Y. 3: 296. 1836

In shallow water. Although the range of the species is from Massachusetts to Wisconsin and southward, Mendon ponds, Monroe county, *Matthews*, 1920, is the only definitely known station in this State.

2 *Eleocharis mutata* (L.) R. Br., l.c.

Angled spike rush

Scirpus mutatus L. Amoen. Acad. 5: 391. 1760

S. quadrangulatus Michx. Fl. Bor. Am. 1: 30. 1803

S. marginatus Muhl. Desc. Gram. 28. 1819

In ponds and streams. Rare but widely distributed across the State.

North Salem, Westchester county, *S. B. Mead* (Beck herbarium). North pond, *Taylor* (Fl. Vic. N. Y. 158. 1915). Outlet of Oneida lake, *Gray*. Paddy lake, South Scriba, Oswego county, *Wibbe* (Torr. Club Bul. 10: 46. 1883). Lake Meahtowantah, near Fulton, Oswego county, *Coville* (42d Rep't N. Y. State Mus. 37. 1889).

3 *Eleocharis Robbinsii* Oakes, in Hovey's Mag. Hort. 7: 178. 1841

Robbin's spike rush

In shallow water. Northern and central parts of the State, Dutchess county, and on Long Island. Rare.

Long pond near Wading River, *E. S. Miller* (25th Rep't N. Y. State Mus. 70. 1873; Torr. Club Bul. 5: 29. 1874). Rare in Suffolk, Nassau and Dutchess counties, *Taylor* (Fl. Vic. N. Y. 159. 1915). Lake Harris and Lake Jimmy, Essex county, *Peck* (30th Rep't N. Y. State Mus. 70. 1878). Mud lake, Oswego county, *Sheldon*.

4 *Eleocharis olivacea* Torrey, Ann. Lyc. N. Y. 3: 300. 1836

Bright-green spike rush

In wet soil and on muddy shores. Infrequent from Rensselaer county westward and southward.

Near Babylon, Long Island, *Torrey* (Fl. N. Y. 2: 347. 1843). Mohegan lake, Westchester county, *Leggett* (Torr. Club Bul. 5: 29. 1874). Sodus Point, Wayne county, *Paine* (Cat. 190. 1865). Monroe and Wayne counties, *Baxter*, *Scaring*, *Hankenson* (Proc. Rochester Acad. 3: 115. 1896; 5: 31. 1910). Mud pond, Oswego county, *Fernald & Wiegand* (Rhodora 25: 208. 1923).

- 5 **Eleocharis annua** (Thuill.) House, N. Y. State Mus. Bul. 243-244: 58. 1923 Ovoid spike rush

Scirpus ovatus Roth, Catal. Bot. 1: 5. 1797. Not Gilib. 1792

S. annuus Thuill. Fl. Par. ed. 2, 22. 1799

S. compressus Moench, Meth. 349. 1794. Not Pers.

S. capitatus Schreb. Spicil. 60. 1771. Not L.

S. multicaulis C. C. Gmel. Fl. Bad. 1: 96. 1806. Not Vahl.

S. turgidus Pers. Syn. 1: 66. 1805. Not Thuill.

Eleocharis ovata R. Br. l.c. 224

In wet soil, especially in marshes, along the shores of ponds, lakes and slow streams. Common in most sections of the State.

- 6 **Eleocharis diandra** C. Wright, Torr. Club Bul. 10: 101. 1883 Wright's spike rush

On sandy or muddy shores of ponds, lakes and streams. Locally abundant across the State.

Lansingburg, *E. C. Howe* (41st Rep't N. Y. State Mus. 58. 1888). Shores of Oneida lake, in Oneida and Madison counties, *Haberer* (Rhodora 2: 60, 61. 1900; N. Y. State Mus. Bul. 54: 959. 1902). Sylvan Beach, Oneida county, *House*. Hudson river at Baker's Falls, *Burnham* (Torreya 19: 126. 1919).

- 7 **Eleocharis obtusa** (Willd.) Schultes, Mant. 2: 89. 1824 Blunt spike rush

Scirpus capitatus Walt. Fl. Car. 70. 1788. Not L.

S. obtusus Willd. Enum. 70. 1809

In wet soil and on moist or muddy shores. Common in most sections of the State.

- 8 **Eleocharis Engelmanni** Steud. Syn. Pl. Cyp. 79. 1855 Engelmann's spike rush

E. ovata var. *Engelmanni* Britton, Jour. N. Y. Micr. Soc. 5: 103. 1889

In wet soil and on muddy shores in the southeastern portion of the State. Rare.

Bronx county; Jamaica, Valley Stream and Rockville Center, Long Island, *Taylor* (Fl. Vic. N. Y. 159. 1915).

- 9 **Eleocharis palustris** (L.) R. & S. Syst. 2: 151. 1817 Creeping spike rush

Scirpus palustris L. Sp. Pl. 47. 1753

S. ovatus Gilib. Exercit. 512. 1792. Not Roth.

S. reptans & *S. intermedius* Thuill. Fl. Par. ed. 2, 21, 22. 1799.

S. filiculmis Schur. Enum. Pl. Transs. 690. 1866

Chlorocharis palustris Rikli, l.c.

In marshy or swampy places, often in shallow water or along the borders of ponds, lakes and slow streams. Common throughout the State. Passing into a very stout variety:

Var. **major** Sonder, Fl. Hamb. 22. 1851 (var. *vicens* Bailey; Britton, l.c. 104). Locally common in shallow water of lakes and ponds, and in its extremely stout form appearing very distinct.

A variety of the species without bristles on the achenes, also locally abundant is known as var. **calva** (Torrey) A. Gray, (*E. calva* Torrey, Fl. N. Y. 2: 346. 1843).

- 10 **Eleocharis glaucescens** (Willd.) R. & S., Mant. 2: 89. 1824
Glaucous creeping spike rush

Scirpus glaucescens Willd. Enum. 76. 1809

E. erythropoda Steud. Syn. Pl. Cyp. 76. 1855

E. palustris var. *glaucescens* A. Gray, Man. 558. 1848

In marshy or wet, sometimes muddy places or on shores. Frequent or locally common throughout most sections of the State outside of the higher Adirondacks.

The features which distinguish this from *E. palustris* are pointed out by Bicknell (Torr. Club Bul. 35: 479. 1908).

- 11 **Eleocharis acicularis** (L.) R. & S. Syst. 2: 154. 1817
Needle or least spike rush

Scirpus acicularis L. Sp. Pl. 48. 1753

S. capillaceus Michx. Fl. Bor. Am. 1: 30. 1803

S. trichodes Muhl. Descr. Gram. 30. 1817

In wet soil and on muddy shores and banks. Common throughout the State.

- 12 **Eleocharis simplex** (Ell.) A. Dietr. Sp. Pl. 2: 78. 1833
Twisted spike rush

Scirpus simplex Ell. Bot. S. C. & Ga. 1: 76. 1816

S. tortilis Link, Jahrb. 3: 78. 1820

E. tortilis Schultes, Mant. 2: 92. 1824

In wet soil. Ranges chiefly south of our borders. In this State known only from Rockville Center, Long Island (*Taylor*).

- 13 **Eleocharis tuberculosa** (Michx.) R. & S. Syst. 2: 152. 1817
Large-tuberculed spike rush

Scirpus tuberculosus Michx. Fl. Bor. Am. 1: 30. 1803

In wet soil. Rare on Long Island and Staten Island.

Long Island, *Torrey* (Fl. N. Y. 2: 348. 1843). Staten Island, *Hollick & Britton* (Torr. Club Bul. 16: 134. 1889; 45th Rep't N. Y. State Mus. 29. 1893).

- 14 **Eleocharis Torreyana** Boeckeler, Linnaea 36: 440. 1870.
Torrey's spike rush

In wet sandy soil or brackish marshes. Frequent on Long Island and near New York City. Not reported northward in the State.

- 15 *Eleocharis melanocarpa* Torrey, Ann. Lyc. N. Y. 3: 311. 1836
Black-fruited spike rush
In wet sandy soil. Rare on Long Island and Staten Island.
Suffolk county, *Torrey* (Fl. N. Y. 2: 520. 1843). Wading River, *Miller, Young, Peck*. Springville and New Dorp, Staten Island, *Hollick & Britton* (Torr. Club Bul. 9: 151. 1882).
- 16 *Eleocharis tricostata* Torrey, Ann. Lyc. N. Y. 3: 310. 1836
Three-ribbed spike rush
In wet soil. Rare on Long Island.
Wading River, *E. S. Miller* (Torr. Club Bul. 6: 258. 1878; 31st Rep't N. Y. State Mus. 31. 1879). Ronkonkoma, Long Island, *Taylor* (Fl. Vic. N. Y. 160. 1915).
- 17 *Eleocharis capitata* (L.) R. Br. Prodr. Fl. Nov. Holl. 1: 225. 1810
Slender spike rush
Scirpus capitatus L. Sp. Pl. 48. 1753
S. filiformis Lam. Illus. 1: 138. 1791
S. tenuis Willd. Enum. 1: 76. 1809. Not Schreb.
E. tenuis Schultes, Mant. 2: 92. 1824
E. filiformis Kunth, Enum. Pl. 2: 146. 1837
Chlorocharis capitata Rikli, l.c.
In wet soil. Common or frequent throughout practically all sections of the State.
- 18 *Eleocharis acuminatus* (Muhl.) Nees, Linnaea 9: 294. 1835
Flat-stemmed spike rush
Scirpus acuminatus Muhl. Gram. 27. 1817
E. compressa Sulliv. Am. Jour. Sci. 42: 50. 1842
In wet soil, especially in open marshes and swamps. Locally frequent from Washington county westward to Jefferson county and Lake Erie. Not reported from the extreme northern counties nor from the southern and southeastern counties.
Shallow borders of lakes in the north woods; millpond at Cedarville, southern Herkimer county; Brownsville, Jefferson county, *Wood* (Paine, Cat. Pl. Oneida Co. 147. 1865). Monroe county (Proc. Rochester Acad. 3: 115. 1896). Grand Island, *J. Peter* (53d Rep't N. Y. State Mus. 853. 1900). Lake Bonaparte, Lewis county, *Peck, House*. Shushan, Washington county, *Dobbin* (Torreya 19: 127. 1919). Jamesville, Onondaga county, *House*.
- 19 *Eleocharis reclinata* Kunth, Enum. Pl. 2: 143. 1837
Matted spike rush
Scirpus intermedius Muhl. Gram. 31. 1817. Not Thuill. 1799, not Poir. 1804
E. intermedia Schultes, Mant. 2: 91. 1824
Scirpus reclinatus Beyr. in Kunth, l.c.
In marshes and on damp or muddy shores and banks. Infrequent or locally abundant across the State outside of and chiefly south of the Adirondacks. Not reported from the higher Catskills.

Hudson river below Albany, *House*. Jefferson county, *Crawe*; Oneida county, *Gray*; Oriskany, *Kneiskern*; Cedarville, Herkimer county; southern Oneida and Madison counties, *Gray*; Benton, Yates county, *Sartwell* (Paine, Cat. Pl. Oneida Co. 147. 1865). Shore of Lake Ontario and ponds elsewhere (Proc. Rochester Acad. 3: 115. 1896). Oneida lake, *House*. Washington county, *Burnham*. Frequent in Tompkins county, *Dudley* (Cayuga Flora 108. 1886).

Var. *Habereri* (*Fernald*) *House*, N. Y. State Mus. Bul. 243-244: 43. 1923 (*E. intermedia* var. *Habereri* *Fernald*, *Rhodora* 8: 130. 1906), is common on the sandy shores of Oneida lake at Lewis Point, Madison county, *Haberer*, Sylvan Beach, Oneida county, *Peck*, *Haberer*, *House*, and doubtless elsewhere in central and western New York.

20 *Eleocharis rostellata* Torrey, Fl. N. Y. 2: 347. 1843

Beaked spike rush

Scirpus rostellatus Torrey, Ann. Lyc. N. Y. 3: 318. 1836

In marshes and wet meadows. Infrequent or locally abundant across the State south of the Adirondacks, but not reported from the upper Hudson valley, the Catskills or the Delaware valley.

Not uncommon on Long Island and in southern Westchester county and in the Bronx, *Taylor* (Fl. Vic. N. Y. 161. 1915). Cayuga marshes and Indian Salt Springs, Tompkins county, *Dudley* (Cayuga Fl. 108. 1886). Junius, Seneca county and Bergen swamp, Genesee county, *Booth*, *Fish*, *Paine*, *Holzer* (Paine, Cat. Pl. Oneida Co. 147. 1865), *Clinton* (19th Rep't N. Y. State Museum. 79. 1866). Penn Yan, Yates county, *Sartwell*. Sullivans, Ontario county *Baxter* (Proc. Rochester Acad. 5: 79. 1917). Jamesville, Onondaga county, *House*.

Paine calls attention to the habit of this species in rooting from the apex of the sterile culms, and Allen (Torr. Club Bul. 5: 29. 1874) also mentions this habit of the species.

STENOPHYLLUS Raf. Neogent. 4. 1825

Stenophyllus capillaris (L.) Britton, Torr. Club Bul. 21: 30.

1894

Hairlike stenophyllus

Scirpus capillaris L. Sp. Pl. 49. 1753

Isolepis capillaris R. & S. Syst. 2: 118. 1817

S. Muhlenbergii Spreng. Syst. 1: 207. 1825

Fimbristylis capillaris A. Gray, Man. 530. 1848

Iriha capillaris Kuntze, Rev. Gen. Pl. 2: 753. 1891

In dry or moist, usually sandy soil. Locally common across the State outside of the Adirondacks and higher Catskills.

Washington county, *Burnham*. Pine plains of Schenectady, *Paige*; sandy plains of Oneida lake, *Gray* (Paine, Cat. 150. 1865). Sylvan Beach, *House* (*Torreya* 3: 165. 1903). Round lake, Saratoga county, *Peck* (N. Y. State Mus. Bul. 157: 42. 1912). Albany, *House*.

Var. **cryptostachys** Fernald, *Rhodora* 19: 154. 1917, with spikelets 4–10 mm long, 12–56-flowered, usually darker colored and sessile; perhaps a distinct species, occurs at Fort Edward, *Howe*; Round lake, *Peck*; Vlei, Fulton county, *Alexander*, and doubtless elsewhere eastward in the State.

FIMBRISTYLIS Vahl, Enum. 285. 1806

Iria Hedw. f. gen. 360. 1806—*Iriha* Kuntze, Rev. Gen. Pl. 751. 1891

Fimbristylis castanea (Michx.) Vahl. l.c. 292

Marsh fimbristylis

Scirpus castaneus Michx. Fl. Bor. Am. 1: 31. 1803

S. carolinianus Lam. Illus. 1: 142. 1791

In marshes and shallow water, usually on or near salt or brackish meadows. Rare on Long Island and Staten Island.

Var. **puberula** (Michx.) Britton (*S. puberulus* Michx., l.c.) is reported by Taylor (Fl. Vic. N. Y. 1915) from the Hempstead Plains, Long Island. (*F. puberula* Vahl, l.c. 289).

TRICHELOSTYLIS Lestib. Ess. Fam. Cyp. 40. 1819*

1 **Trichelostylis autumnalis** (L.) Nees, *Linnaea* 9: 290. 1834

Low trichelostylis

Scirpus autumnalis L., Mant. 2: 180. 1771

T. geminata Nees, l.c.

Fimbristylis Frankii Steud. Syn. Pl. Cyp. III. 1855

F. geminata Kunth; Britton & Brown, Illus. Fl. ed. 2, 1: 322. 1913

F. autumnalis R. & S. Syst. 2: 97. 1817

Iriha autumnalis Kuntze, l.c. 752

In moist soil and on sandy shores. Frequent or locally common across the State south of the Adirondacks.

2 **Trichelostylis mucronulata** (Michx.) Torrey, Ann. Lyc. N. Y. 3: 365. 1836 (Excel. syn. Nees) Slender trichelostylis

Scirpus mucronulatus Michx. Fl. Bor. Am. 1: 31. 1803

S. Michauxii Pers. Syn. 1: 68. 1805

T. borealis Wood, Am. Bot. & Flor. 364. 1871

Fimbristylis autumnalis R. & S.; Britton & Brown, l.c.

T. autumnalis Wood, Classbook, 741. 1861. Not Nees

In low grounds and on moist shores. Frequent in the eastern central and southern sections of the State. Elsewhere rather rare or local. Common on the plains between Albany and Schenectady and on Long Island. Rare in Oneida county.

*If *Stenophyllus* Raf. is to be maintained separately from *Fimbristylis*, it seems necessary to restore the genus *Trichelostylis*, with its three-cleft styles and triangular achenes.

ERIOPHORUM L. Sp. Pl. 52. 1753

1 *Eriophorum alpinum* L., l.c.

Alpine cotton grass

E. hudsonianum Michx. Fl. Bor. Am. 1: 34. 1803*Trichophorum hudsonianum* Nutt. Gen. 1: 36. 1818*Scirpus hudsonianus* Fernald, Rhodora 8: 161. 1906*Leucocoma alpina* Rydb. Rocky Mt. Fl. 108. 1917

In bogs and on boggy mountain summits. Common northward across the State. Less frequent or local southward to Rensselaer, Otsego and Tompkins counties, and westward to Lake Erie.

Oriskany, *Kneiskern*, *Gray*, *Vasey*; Rome; Hidden lake, Litchfield, Herkimer county and Mud lake, *Paine* (Cat. Pl. Oneida Co. 149. 1865). Essex, Lewis and Hamilton counties, *Peck* (N. Y. State Mus. Bul. 75: 24. 1904; 94: 38. 1905). Wayne county (Proc. Rochester Acad. 3: 116. 1896). Sugar river near Leyden, Lewis county, *Haberer*. Bonaparte swamp, Lewis county, *House*. North Hannibal, Oswego county, *House*. Lily marsh, South New Haven, Oswego county, *C. S. Sheldon*, *House*. Kasoag, Oswego county, *House*. Oneida and Pecksport, Madison county, *House*. Several localities in Washington county, *Burnham* (Torreya 19: 127. 1919). Round marshes, Tompkins county, *Dudley* (Cayuga Flora 109. 1886).

2 *Eriophorum callithrix* Chamisso, in C. A. Meyer, Mem. Sav.

Etrang. 1: 203. 1831

Sheathed cotton grass

E. caespitosum Pursh, Fl. Am. Sept. 1: 57. 1814. Not Host.*E. vaginatum* Torrey, Fl. N. & Mid. U. S. 1: 65. 1824. Not L.*E. virginatum* Eaton & Wright, N. Am. Bot. 237. 1840

In bogs. Frequent in northern New York, local southward to Rensselaer county and westward to Wyoming and Wayne counties.

Wetmore's pond, Frankford Hill, Herkimer county; Watertown and Utica, *Gray*; pine plains west of Rome, *Paine* (Cat. Pl. Oneida Co. 149. 1865). Mount Marcy, *Torrey* (Fl. N. Y. 2: 358. 1843); *Peck* (52d Rep't N. Y. State Mus. 663. 1899). Summit of Mount McIntyre and several localities in North Elba, Essex county, *Peck* (N. Y. State Mus. Bul. 28: 138. 1899). Newcomb, *House*. Sand-lake, Rensselaer county, *Peck*. Washington county, *Burnham* (Torreya 19: 127. 1919). Junius, Seneca county, *Sartwell*. Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 116. 1896). Wethersfield, Wyoming county, *Baxter*. Pecksport, Madison county, *House*. Lily marsh, South New Haven, Oswego county, *House*. Onjehonge pond, Natural Bridge, Lewis county, *House*.

3 *Eriophorum gracile* Koch; Roth, Catal. Bot. 2: 259. 1800

Slender cotton grass

E. triquetrum Hoppe, Taschenb. 1800: 196. 1800

In bogs. Frequent in the northern part of the State. Less abundant, local or rare southward to Bronx county, westward across the State. Not reported from the southern tier of counties.

Open grassy bog, north of Summit lake, Otsego county; Cedar swamp, bordering Mud lake, Hidden lake, southern Herkimer county; cold bogs west of Fort Bull, Rome, and North pond, Oneida county, *Paine* (Cat. Pl. Oneida Co. 150. 1865). Near Long lake, Herkimer county, *Peck* (30th Rep't N. Y. State Mus. 70. 1878). Rare in the Bronx and Westchester county, *Taylor* (Fl. Vic. N. Y. 163. 1915). Bonaparte swamp, Lewis county, *House*. Tupper Lake, Franklin county, *House*. Big Moose, *Peck*. Mendon, Monroe county, *House*.

4 *Eriophorum tenellum* Nutt. Gen. (Add.) 1818

Rough cotton grass

E. gracile A. Gray, Man. 529. 1848. Not Koch, 1800

E. paucinervium A. A. Eaton, Torr. Club Bul. 25: 341. 1898

In bogs. Frequent in the Adirondacks and the northern counties. Abundant, local or rare southward to Bronx county, westward across State.

Lake Placid, Essex county, *House*. Newcomb, *House*. Long Lake, Oneida county, *House*. Rome, Oneida county, *House*. Lily marsh, South New Haven, Oswego county, *House*. Junius, Seneca county, *Sartwell*. Wayne county, *Killip* (Proc. Rochester Acad. 5: 79. 1917). Karner, Albany county, *House*. Highland lake, Sullivan county, *Peck*. Sam's Point, Ulster county, *Peck*. Boggy depression in Hempstead plains, Long Island, *House*.

5 *Eriophorum angustifolium* Roth, Tent. 1: 24. 1788

Tall cotton grass

Linagrostis vulgaris Hill, Brit. Herb. 506. 1756

E. polystachyon var. *angustifolium* A. Gray, Man. 529. 1848

In bogs. Essex and Rensselaer counties westward across the State. Not reported from the higher Adirondack region, but probably occurring there. Not reported from the Catskill region, the southeastern part of the State nor from the southern tier of counties bordering on Pennsylvania.

Oriskany swamp; Brookfield, Madison county, *Gray*; bogs in northern Herkimer county, *Paine* (Cat. Pl. Oneida Co. 149. 1865). Junius, Seneca county, *Sartwell*. Near Utica, *Gray*. Ticonderoga C. S. Banks. Schuyler's lake, *Gray*.

Var. *majus* Schultz, Fl. Starg. Suppl. 5. 1819 (*E. polystachyon* var. *elatius* Bab. Man. 333. 1843), at Snyder's Corners, Rensselaer county, *Peck*.

6 *Eriophorum viridicarinarum* (Engelm.) Fernald, Rhodora 7:

89. 1905

Thin-leaved cotton grass

E. latifolium var. *viridicarinarum* Engelm. Am. Jour. Sci. 46: 103. 1844

E. polystachyon var. *latifolium* A. Gray, Man. 529. 1848

E. polystachyon Torrey, Fl. N. Y. 2: 359. 1843. Not L. 1753

In wet meadows, marshes and bogs. Common throughout the State northward and westward. Less common or local southward to Westchester county.

7 *Eriophorum virginicum* L. Sp. Pl. 52. 1753

Virginia cotton grass

In bogs and marshes throughout the State. Common or frequent. "More common in the bogs of the pine-barrens and in the mountains northward, than in the intervening territory," Taylor (Fl. Vic. N. Y. 164. 1915). The var. *album* A. Gray with white bristles, is rather frequent.

SCIRPUS L. Sp. Pl. 47. 1753

1 *Scirpus nanus* Spreng. Pug. 1: 4. 1815 Dwarf club rush

Eleocharis pygmaea Torrey, Ann. Lyc. N. Y. 3: 313. 1836

Rare in muddy places in the salt marshes along the coast and reported inland at Onondaga lake.

2 *Scirpus pauciflorus* Lightf. Fl. Scot. 1078. 1777

Few-flowered club rush

Eleocharis pauciflorus Link, Hort. Berol. 1: 284. 1827

In wet or boggy soil. Rare across the northern part of the State and local westward to Cayuga and Genesee counties.

Watertown, *Craze*; southern Herkimer county; Bergen swamp, Genesee county, *Paine* (Cat. Pl. Oneida Co. 148. 1865). Sodus bay, *Paine* (l.c. 191). Newcomb, Essex county, *Peck* (30th Rep't N. Y. State Mus. 70. 1878). Summit of Mount Marcy, *Peck*, *Killip*. Union Springs, Cayuga county and Tully lake, Onondaga county, *Dudley*.

3 *Scirpus caespitosus* L. Sp. Pl. 48. 1753. Tufted club rush

S. bracteatus Bigel. N. Eng. Jour. Med. 5: 335. 1816

S. obtusus Bigel. l.c. Not Willd.

Aplostemon bracteatum Raf. Am. Mo. Mag. 1: 441. 1817

In bogs and on moist rocks. Infrequent in the Adirondack mountains, and in Genesee county.

The form which occurs in New York, is *S. caespitosus* var. *callosus* Bigel. Fl. Bost. ed. 2, 21. 1824.

Mount Marcy, *Kneiskern*, *Peck* (52d Rep't N. Y. State Mus. 663. 1899). Summit of Mount McIntyre and Mount Wright, and marshy places west of Wallface mountain, *Peck* (N. Y. State Mus. Bul. 28: 137. 1899). Bergen swamp, Genesee county, *Fish*, *Booth*, *Holzer*, etc. (Clinton in 19th Rep't Regents, 79. 1866).

4 *Scirpus Clintoni* A. Gray, Am. Jour. Sci. (II) 38: 290. 1864

Clinton's club rush

In dry fields and thickets. Rare.

Buffalo, June, 1864, *G. W. Clinton* (19th Rep't Regents, 202. 1866, and in state herbarium). Ogdensburg, *Crawe* (Paine, Cat. Pl. Oneida Co. 148. 1865).

5 *Scirpus planifolius* Muhl. Gram. 32. 1817

Wood club rush

In woods and thickets. Infrequent or locally abundant across the State south and west of the Adirondacks.

Rare and local on Long Island, frequent on Staten Island and in the Bronx, thence increasing northward, *Taylor* (Fl. Vic. N. Y. 165. 1915). Frequent in Chemung county, *Lucy*; Apalachin, Tioga county, *Fenno* (Clute, Fl. Upper Susquehanna 120. 1898). Ogdensburg, St Lawrence county; *Crawe*, and Hudson river above Albany, *Peck* (Paine, Cat. Pl. Oneida Co. 148, 191. 1865). Glenmont, Albany county, *House*. Fishkill, Dutchess county, *Peck*. Hillside east of Cayuga lake, *Dudley*. Monroe county, *Baxter*, *House*. Washington county, *Stevenson* (Torrey, Ann. Lyc. N. Y. 3: 317. 1836).

6 *Scirpus subterminalis* Torrey, Fl. N. & Mid. U. S. 1: 47. 1824

Water club rush

In ponds and slow streams, or sometimes on their borders. Local or rare across the State northward from Essex and Washington counties westward to Herkimer, Oswego and Wayne counties. Also on Long Island.

First lake, Herkimer county; North pond, Oneida county, and the Var. *terrestris* Paine, in wet moss on Hidden lake, southern Herkimer county, *Paine* (Cat. Pl. Oneida Co. 148. 1865). White lake, Oneida county, *Haberer* (Rhodora 7: 106. 1905). Lake Jimmy and Lake Harris, Essex county, *Peck* (30th Rep't N. Y. State Mus. 70. 1878). Lake Pleasant, Hamilton county, *House*. Washington county, *Burnham* (Torreya 19: 128. 1919). Sand lake, Rensselaer county, *H. H. Eaton* (Torrey, l.c. 318). Mud lake, Hannibal, Oswego county, *Beckwith*. Lily marsh, South New Haven, Oswego county, *C. S. Sheldon*. Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 116. 1898). Scattered throughout the range and common in the pine-barrens streams; unknown on Staten Island, *Taylor* (Fl. Vic. N. Y. 156. 1915). Little York lake, Cortland county, *Dudley*, 1886.

7 *Scirpus debilis* Pursh, Fl. Am. Sept. 55. 1814

Weak-stalked club rush

On moist sandy or muddy shores. Frequent on Long Island and Staten Island, decreasing northward. Most if not all of the reports of this from inland localities doubtless refer to the next species.

8 *Scirpus Smithii* A. Gray, Man. ed. 5, 503. 1867

Smith's club rush

Wet or moist sandy or muddy shores. Lake Champlain westward to the St Lawrence, shores of Lake Ontario and the inland lakes of New York, south to Dutchess county.

Sackett's Harbor, *Gray*; Sodus Bay; Oneida lake, *Kneiskern* (Paine, Cat. Pl. Oneida Co. 148. 1865). Stissing pond, Dutchess county, *Hoysradt*. Northville, Fulton county, *A. Olsson*. Oneida lake, *House* (Torreya 3: 165. 1903). Shore of Cayuga lake near Union Springs, Cayuga county, *Dudley* (36th Rep't N. Y. State Mus. 40. 1884). Lake Ontario at Braddock's bay, Monroe county, *Fuller* (Proc. Rochester Acad. 3: 116. 1896). Woodville, Jefferson county, *House*.

9 *Scirpus americanus* Pers. Syn. 1: 68. 1805 Chair-makers rush

S. pungens Vahl, Enum. 2: 255. 1806

S. triqueter Torrey, Fl. N. Y. 2: 352. 1843. Not L.

In shallow water of fresh or brackish swamps and in marshes and on moist sandy or muddy shores. Frequent or common throughout most sections of the State.

10 *Scirpus Olneyi* A. Gray, Bost. Jour. Nat. Hist. 5: 238. 1845

Olney's rush

In salt marshes along the coast of Long Island and Staten Island. Rare (Torr. Club Bul. 4: 42. 1873; 18: 214. 1891; 27th Rep't N. Y. State Mus. 90. 1877).

11 *Scirpus Torreyi* Olney, Proc. Providence Frank. Soc. 1: 32. 1847

Torrey's bulrush

S. mucronatus Torrey Fl. N. Y. 2: 353. 1843. Not L.

In swamps and in shallow water of slow streams and lakes, often on boggy shores. Frequent in the Adirondack region. Rare or local southward to Tioga county and Long Island.

Head of Fourth lake, Hamilton county; West Bergen swamp, with *Juncus balticus* etc. *Paine* (Cat. Pl. Oneida Co. 148. 1865). Shores of Schroon lake, *Peck* (25th Rep't N. Y. State Mus. 107. 1873). Beaver lake, *Peck* (41st Rep't 82. 1888). Big Moose lake, *Peck*. Lake Pleasant, Newcomb and Aiden Lair, *House*. West Point, *Bailey* (Torrey, Fl. N. Y. 2: 353. 1843). Apalachin, Tioga county, *Fenno*. Dresden, Washington county, *Peck*.

12 *Scirpus validus* Vahl, Enum. 2: 268. 1806

American great bulrush

S. orgyalis Raf. Ann. Nat. 16. 1820

S. lacustris Torrey, Fl. N. Y. 2: 353. 1843. Not L.

In ponds, swamps, marshes and along the shores of lakes and slow streams. Common throughout the State.

- 13 *Scirpus acutus* Muhl.; Bigel. Fl. Bost. 15. 1814 — Fernald, Rhodora 22: 55. 1920 Western bulrush

S. lacustris var. *occidentalis* S. Wats. Bot. Cal. 2: 218. 1880

S. occidentalis Chase, Rhodora 6: 68. 1904

Borders of lakes and streams. Rare across the middle part of the State.

Schenectady, *Wibbe*. Shore of Lake Ontario, *Wibbe* (Torr. Club Bul. 10: 46. 1883, cited by Chase). Canandaigua, Ontario county, *Miss E. C. Webster*. Forma *congestus* (Farwell) Fernald, l.c. 23: 131. 1921, with contracted inflorescence, has not been reported from this State.

The plants reported by Peck (N. Y. State Mus. Bul. 94: 34. 1905) from Oneida lake, Thompson's lake and Lake Bonaparte, are all *S. validus*.

- 14 *Scirpus heterochaetus* Chase, Rhodora 6: 70. 1904 Pale great bulrush

S. lacustris var. *condensatus* Peck, 53d Rep't N. Y. State Mus. 853. 1900.

Borders of lakes and ponds. Rare in the western part of the State from St Lawrence county westward.

Havana, *Chickering* (Gray herbarium). Lime lake, *Fenno*. Black lake, Morristown, St Lawrence county, *Mrs O. P. Phelps*. Mouth of Salmon river, Oswego county, *Fernald & Wiegand* (Rhodora 25: 208. 1923). Montauk, *Ferguson*.

- 15 *Scirpus paludosus* A. Nelson, Torr. Club Bul. 25: 5. 1899 Prairie bulrush

S. campestris Britton; in B. & B. Illus. Fl. 1: 267. 1896. Not Roth, 1795

S. interior Britton, Man. ed. 2, 178. 1905

S. campestris var. *paludosus* Fernald, Rhodora 8: 162. 1906

In salt marshes. Occasional on Long Island and inland in Onondaga and Wayne counties.

Onondaga lake, *Paine* (Cat. Pl. Oneida Co. 149. 1865, as *S. maritimus*). Near Syracuse, *C. S. Sheldon*. Savannah, Wayne county, *Peck*.

- 16 *Scirpus robustus* Pursh, Fl. Am. Sept. 56. 1814 Salt-marsh bulrush

S. maritimus var. *macrostachyus* Michx. Fl. Bor. Am. 1: 32. 1803

S. maritimus Torrey, Ann. Lyc. N. Y. 3: 323. 1836. Not L.

In salt marshes along the coast of Long Island and Staten Island. Frequent. Also inland at the head of Onondaga lake (*Clinton*, *Paine*, *Mrs M. O. Rust*).

- 17 *Scirpus fluviatilis* (Torr.) A. Gray, Man. 527. 1848 River bulrush

S. maritimus β. *fluviatilis* Torrey, l.c. 324

In shallow water and marshy or moist shores, along lakes and streams, Lake Champlain south to Dutchess and Greene counties westward to the St Lawrence, Lake Ontario and Lake Erie.

Pine Plains, Dutchess county, and opposite New Baltimore, Greene county, *Taylor* (Fl. Vic. N. Y. 167. 1915). Gravelly shores of Canaderaga lake, Otsego county, where it was discovered by Gray in 1832; borders of Oneida lake, *Kneiskern*; Yates county, *Sartwell*; Irondequoit bay, *Holzer* (Paine, Cat. Pl. Oneida Co. 149. 1865). Common in Genesee river, Irondequoit bay and Long pond, (Proc. Rochester Acad. 3: 116. 1896). Oneida lake, *House*. Lake Champlain, *Peck*. Montezuma marshes, Seneca county, *House*. Hudson river below Albany, *House*.

18 *Scirpus novae-angliae* Britton; in Britton & Brown, Illus. Fl. 3: 509. 1898 New England bulrush

In fresh and brackish marshes. Reported from Spuyten Duyvil creek, New York City, and Smithtown, Long Island, *Taylor* (Fl. Vic. N. Y. 167. 1915).

19 *Scirpus sylvaticus* L. Sp. Pl. 51. 1753 Wood bulrush

In swamps and along streams and shores of lakes and ponds. Locally frequent southward in the State.

Staten Island, *Hollick & Britton* (Torr. Club Bul. 9: 151. 1882). Tarrytown, *Howe* (Torr. Club Bul. 9: 35. 1882). Shandaken, Ulster county, *Peck*. Albany county, *Peck* (38th Rep't N. Y. State Mus. 108. 1885). Utica, *Haberer*. Forms with reddish sheaths and less distinctly three-angled achenes indicate a possible intergradation with the following species.

20 *Scirpus microcarpus* Presl. Rel. Haenk. 1: 95. 1828 Small-fruited bulrush

S. sylvaticus var. *didymus* Boeckl. Linnaea 36: 727. 1870

S. rubrotinctus Fernald, Rhodora 2: 20. 1900

In swamps, marshes and wet woods. Common throughout the northern, central and western portions of the State. Less frequent southward to Long Island.

Northward the prevailing form tends to have more slender stems, narrower leaves and smaller inflorescence, corresponding to the original description of *S. rubrotinctus* Fernald. However through the middle and southern portions of the State it merges into a very stout form with broad leaves and large inflorescence which corresponds quite fully with *S. microcarpus* from the west coast of America.

Var. *confertus* (Fernald) House, N. Y. State Mus. Bul. 233-234: 62. 1922

S. rubrotinctus var. *confertus* Fernald, Rhodora 2: 21. 1900

Loon lake, *Peck* (N. Y. State Mus. Bul. 54: 959. 1902). Wilton, Saratoga county, *Peck*. Schenectady, *Wibbe*. Inlet, Hamilton county, *House*. Newcomb, Essex county, *House*.

Var. **Bissellii** (Fernald) *House*, N. Y. State Mus. Bul. 243-244: 18. 1923.

S. sylvaticus var. *Bissellii* Fernald, *Rhodora* 2: 21. 1900

Marsh near West Albany, *Wibbe* (state herbarium). Plant stout, spikelets 8-12 mm long, scales much darker than in either *S. sylvaticus* or typical *S. microcarpus*; styles two-divided, occasionally three-divided in the same spikelet.

21 **Scirpus atrovirens** Muhl. Gram. 43. 1817

Dark green bulrush

In meadows, bogs, marshes and wet places generally. Common throughout most sections of the State.

Var. **sychnocephalus** S. N. Cowles, *Am. Nat.* 3: 101. 1869

S. atrovirens var. *pycnocephalus* Fernald, *Rhodora* 8: 163. 1906

S. atrovirens forma *sychnocephalus* Blake, *Rhodora* 15: 161. 1913

Flats of the Mohawk near Utica, and at Lewis Point, Madison county, *Haberer*.

Var. **georgianus** (Harper) Fernald, *Rhodora* 23: 134. 1921

S. georgianus Harper, *Torr. Club Bul.* 27: 331. 1900

Locally abundant in wet soil and marshes.

Keene and Aiden Lair, Essex county, *Peck*. Newcomb, *House*. Grafton, Rensselaer county, *Peck*. Karner, Albany county, *House*. Canton, St Lawrence county, *Mrs O. P. Phelps*. Blue Mountain lake, Hamilton county, *House*. Mendon, Monroe county, *Matthews*.

22 **Scirpus polyphyllus** Vahl, *Enum.* 2: 274. 1806

Leafy bulrush

S. brunneus Muhl. Gram. 43. 1817; Torrey, *Fl. N. Y.* 2: 355. 1843

In swamps, wet woods and low meadows, chiefly in the eastern and southern portions of the State. Rare northward and westward.

Rare on the north side of Long Island and reported from the south side; Staten Island, thence increasing northward, *Taylor* (*Fl. Vic. N. Y.* 167. 1915). Harlem river, *Bicknell* (*Torr. Club Bul.* 7: 114. 1880). Shandaken, Ulster county, *Peck* (46th Rep't N. Y. State Mus. 50. 1893). Catskill, *Clinton* (38th Rep't N. Y. State Mus. 108. 1885). Gansevoort, Saratoga county, *Peck* (41st Rep't 82. 1888). Penn Yan, Yates county, *Sartwell*; Lockport, Niagara county, *Sartwell* (*Paine, Cat. Pl. Oneida Co.* 149. 1865). Deerfield, Oneida county (according to Torrey).

23 **Scirpus Peckii** Britton, *Trans. N. Y. Acad. Sci.* 11: 82. 1892

Peck's bulrush

S. atratus Fernald, *Rhodora* 2: 18. 1900

In meadows and bogs. Northern and central portions of the State. Infrequent.

Loon Lake, Franklin county, *Peck* (N. Y. State Mus. Bul. 54: 959. 1902. Lake Pleasant, Hamilton county, *Peck* (45th Rep't 30. 1893; 46th Rep't 22. 1893). Shushan, Washington county, *Dobbin*. Panther lake, Oswego county, *House*.

24 *Scirpus lineatus* Michx. Fl. Bor. Am. 1: 32. 1803

Reddish bulrush

In swamps and wet meadows. Infrequent or locally abundant throughout the State, except on Long Island and Staten Island.

Woodlawn, New York City, *Taylor*. Poughkeepsie, *Torrey* (Fl. N. Y. 2: 357. 1843). Ontario county, *Sartwell*. Middle Grove, Saratoga county, *Peck* (47th Rep't N. Y. State Mus. 38. 1894). Not common (Proc. Rochester Acad. 3: 116. 1896). Albany, *Peck*. Oneida and Herkimer counties, *Habercr*. Oswego, *Sheldon*. Kirkville, Onondaga county, *House*. Canton, St Lawrence county, *Mrs O. P. Phelps*. Poughkeepsie, *Dudgeon* (Torrey, Ann. Lyc. N. Y. 3: 332. 1836).

25 *Scirpus cyperinus* (L.) Kunth, Enum. 2: 170. 1837

Wool grass

Eriophorum cyperinum L. Sp. Pl. ed. 2, 77. 1762

Trichophorum cyperinum Pers. Syn. 1: 69. 1806

S. eriophorum β, Torr. Ann. Lyc. N. Y. 3: 331. 1836

In wet meadows, marshes and swamps. Common throughout the State.

The typical form, uncommon in this State, has spikelets all glomerulate, reddish-brown involucels, scales and bristles, while the commoner form with us is:

Var. *pelius* Fernald, Rhodora 8: 164. 1906, with involucels dull brown or drab, with blackish bases; rays elongate, the glomerules mostly distinct, bristles drab or smoke-colored.

Var. *pelius* forma *congestus* House, comb. nov.

S. Eriophorum var. *condensatus* Fernald, Proc. Am. Acad. 34: 501. 1899

S. cyperinus var. *condensatus* Fernald, Rhodora 2: 16. 1900. Not *Eriophorum cyperinum* var. *condensatum* Peck, 46th Rep't 50 1893 (which is same as *S. atrocinctus* var. *brachypodus* Fernald)

S. cyperinus var. *pelius* forma *condensatus* Blake, Rhodora 15: 162. 1913

S. cyperinus var. *congestus* House, N. Y. State Mus. Bul. 233-234: 62. 1922

An infrequent form of the var. *pelius* with contracted inflorescence. Sandlake, Rensselaer county, *Peck*. Oswego, *Wibbe*. Oneida lake, *House*. Newcomb, Essex county, *House*.

26 *Scirpus Eriophorum* Michx. Fl. Bor. Am. 1: 33. 1803

Wool grass

In swamps and marshes, chiefly along or near the Atlantic coast.

Closely related to the preceding species, and united to it by some authorities. The chief marks of distinction are the pedicelled lateral

spikelets of each group of the inflorescence, and the involuclers bright reddish brown or terra cotta. It is apparently usually, but not always coarser and taller than the preceding species, and perhaps intergrades with it.

27 *Scirpus atrocinctus* Fernald, Proc. Am. Acad. 34: 502. 1899.
Northern wool grass

S. Eriophorum, n. Torr. Ann. Lyc. N. Y. 3: 331. 1836
Eriophorum cyperinum var. *atrocinctus* Farwell, 2d Rep't Mich. Acad. Sci. 39. 1901

In moist meadows, swamps and marshes, often along streams and shores of lakes and ponds. Very common across the State, but infrequent or rare in the extreme southern part of the State and perhaps absent from the coastal district.

Var. *condensatus* (Peck) House, N. Y. State Mus. Bul. 233-234: 62. 1922

Eriophorum cyperinum var. *condensatum* Peck, 46th Rep't N. Y. State Mus. 50. 1893

S. atrocinctus var. *brachypodus* Fernald, Proc. Amer. Acad. 34: 503. 1899
S. atrocinctus forma *brachypodus* Blake, Rhodora 15: 161. 1913

Less frequent than the typical species, but occurring locally throughout the range of the species.

Var. *grandis* Fernald, Rhodora 2: 17. 1900. Taller and much stouter, with leaves sometimes 15 mm wide. Little Tupper lake, Hamilton county, House. Approaching in appearance the *S. Eriophorum* of the coastal region.

28 *Scirpus pedicellatus* Fernald, Rhodora 2: 16. 1900

Slender wool grass

In meadows and swamps. Frequent northward in the State. Local or rare southward and westward.

Near Whitehall and Fort Ann, Washington county, Peck. Between Schuylerville and Bemus Heights, Saratoga county, Peck. (54th Rep't N. Y. State Mus. 144. 1901). Nichols, Tioga county, Fenno. Sylvan Beach, Oneida county, House. Pittsford, Monroe county, House. Bergen swamp, Genesee county, House.

Var. *pullus* Fernald, Rhodora 2: 17. 1900

Lake Placid, Essex county, House. Snyder's Corners, Rensselaer county, Peck. Tonawanda swamp, House.

FUIRENA Rottb. Descr. & Ic. 70. pl. 19. f. 3. 1773

Fuirena squarrosa Michx. Fl. Bor. Am. 1: 37. 1803

Umbrella grass

F. squarrosa var. *pumila* Torr. Fl. N. & Mid. U. S. 1: 68. 1824
F. Torreyana Beck, Bot. 429. 1830

In wet meadows and marshes. Infrequent throughout the coastal plain of Long Island. Not reported from Staten Island.

Fuirena hispida Ell. has been reported from, but is not definitely known from this State.

HEMICARPHA Nees & Arn. Edinb. New Phil. Jour. 17: 263.

1834

Hemicarpha micrantha (Vahl) Pax, in E. & P. Nat. Pflf. 2²: 105.

1887

Common hemicarpha

Scirpus micranthus Vahl, Enum. 2: 254. 1806

S. minimus Pursh, Fl. Am. Sept. 55. 1814. Not Vahl.

S. subsquarrosus Muhl. Gram. 39. 1817

H. subsquarrosus Nees, in Mart. Fl. Bras. 2¹: 61. 1842

In moist sandy soil. Southeastern New York and inland at Oneida lake.

Rare and local on Long Island and in Westchester county, *Taylor*. Shores of Oneida lake, *Gray*, *Kneiskern* (Paine, Cat. Pl. Oneida Co. 147. 1865): *House* (Torreya 3: 165. 1903).

DULICHIMUM L. C. Richard; Pers. Syn. 1: 65. 1805

Dulichium arundinaceum (L.) Britton, Torr. Club Bul. 21: 29.

1894

Cyperus arundinaceus L. Sp. Pl. 44. 1753

C. spathaceus L. Syst. ed. 12, 2: 735. 1767

D. spathaceum Pers., l.c.

Scirpus spathaceus Michx. Fl. Bor. Am. 1: 32. 1803

In wet places, marshes, swamps, bogs and shores of ponds and lakes. Frequent or common throughout most sections of the State.

CERATOSCHOENUS Nees, in Linnaea 9: 296. 1834

Lonchostylis Torrey, Ann. Lyc. N. Y. 3: 370. 1836

1 *Ceratoschoenus inundatus* (Oakes) comb. nov.

C. macrostachys, β , *inundatus* Oakes, in Hovey's Mag. 7: 185. 1841

Rhynchospora macrostachys var. *inundata* Fernald, Rhodora 8: 164. 1906

Rhynchospora inundata Fernald, Rhodora 20: 138. 1918

In shallow water of ponds on southern and eastern Long Island. Rare. Perhaps only an aquatic form of the following species.

2 *Ceratoschoenus macrostachys* Torrey, Ann. Lyc. N. Y. 3: 369.

1836

Stout horned rush

Rhynchospora macrostachya Torrey; A. Gray, Ann. Lyc. N. Y. 3: 205. 1836

Marshy borders of ponds on Long Island and in Oswego county. Rare.

Smithtown, *Peck*. Middle Island, *House*. Wading River, *Miller* (25th Rep't N. Y. State Mus. 70. 1873). Lynbrook, *Taylor* (Fl. Vic. N. Y. 170. 1915). Peat bog around Mud lake, 5 miles south-

west of Oswego, *Wibbe* (Torr. Club Bul. 6: 192. 1877 — 31st Rep't N. Y. State Mus. 53. 1879); *Sheldon* (state herbarium)

This species is joined by Britton & Brown to the southern *Rynchospora corniculata* (Lam.) A. Gray (*Ceratoschoenus longirostris* (Michx.) Torrey (Not *Ceratoschoenus corniculatus* Nees), which is not known to occur north of Delaware.

RYNCHOSPORA Vahl, Enum. 2: 229. 1806

Phaeocephalum Ehrh. Beitr. 4: 146. 1789 (nomina usualia)

Chaetospora H. B. K. Nov. Gen. & Sp. 1: 229. 1815

Triodon Rich. in Pers. Syn. 1: 60, in nota. 1805

1 *Rynchospora alba* (L.) Vahl, l.c. 236 White beaked-rush

Schoenus albus L. Sp. Pl. 65. 1753

Mariscus albus Gilib. Exerc. Phyt. 2: 512. 1792

In bogs and marshes. Frequent or locally common throughout most sections of the State. The var. *macra* Clarke, local northward to eastern and central New York.

2 *Rynchospora pallida* M. A. Curtis, Am. Jour. Sci. II. 7: 409. 1849 Pale beaked-rush

A southern species, discovered near Central Islip, in pine barrens, on Long Island by W. C. Ferguson.

3 *Rynchospora capillacea* Torrey, Comp. Fl. 41. 1826 Capillary beaked-rush

Schoenus setaceus Muhl. Gram. 6. 1817. Not Vahl.

R. setacea MacM. Met. Minn. Valley 104. 1892

In marly bogs and on wet limestone rocks. Local or rare.

Putnam county, *Barratt*; Penn Yan, *Sartwell*; Jefferson county, *Gray*; Oneida lake, *Kneiskern* (Torrey, Fl. N. Y. 2: 363. 1843), and to these Paine (Cat. Pl. Oneida Co. 150. 1865) adds: Junius, Seneca county, *Sartwell*; Genesee river at Rochester and Bergen swamp, Genesee county, also a variety with 12 bristles at Hidden lake, southern Herkimer county and state marsh Litchfield, Herkimer county, *Peck*. Waverly, Tioga county, *Fenno*. Glens Falls, *Burnham* (Torreya 19: 129. 1919). Little York lake, Cortland county, *Dudley*. Newton's pond, Tompkins county, *Dudley* (Cayuga Flora 110. 1886).

Var. *leviseta* E. J. Hill (Am. Nat. 10: 370. 1876), occurs in Bergen swamp, Genesee county.

4 *Rynchospora capitellata* (Michx.) Vahl, Enum. 2: 235. 1806 Clustered beaked rush

Schoenus capitellatus Michx. Fl. Bor. Am. 1: 36. 1803

Rynchospora glomerata Pursh, Fl. Am. Sept. 48. 1814. Not *Schoenus glomeratus* L.

In moist soil. Locally abundant or rare. Frequent on Long Island and in and near the Hudson valley northward to Dutchess and Albany counties. Locally westward to Herkimer, Oneida and Oswego counties. Narrowsburg, Sullivan county, *Peck*. Stockholm, St Lawrence county, *Mrs O. P. Phelps*.

- 5 *Rynchospora axillaris* (Lam.) Britton, Torr. Club Bul. 15: 104. 1888
Capitate beaked rush

Schoenus axillaris Lam. Tabl. Encycl. 1: 137. 1791
R. cephalantha A. Gray, Ann. Lyc. N. Y. 3: 218. 1836

In sandy swamps. Rare in Suffolk county, Long Island.

- 6 *Rynchospora fusca* (L.) Ait. f. Hort. Kew. Ed. 2, 1: 127. 1810
Brownish beaked rush

Schoenus fuscus L. Sp. Pl. ed. 2, 1664. 1763

In boggy or marshy places and on wet shores. Frequent or common northward across the State and in central New York. Less common southward and rare on Long Island. Apparently not reported from the region between Long Island on the south and the Catskills and Dutchess county on the north.

- 7 *Rynchospora gracilentia* A. Gray, Ann. Lyc. N. Y. 3: 216. 1835
Very rare in pine-barren swamps. Reported from Putnam county (Doctor Barrett, fide Gray, l.c.) and from Long Island, but not recently collected in this State.

Rynchospora Torreyana A. Gray, ranges from New Hampshire and Massachusetts southward in wet pine-barrens near the coast, but has not been definitely recorded for New York State.

PSILOCARYA Torrey, Ann. Lyc. N. Y. 3: 359. 1836

- Psilocarya nitens* (Vahl) Wood, Bot. & Flor. 364. 1870
Short-beaked bald rush

Scirpus nitens Vahl, Enum. 2: 272. 1806
Psilocarya rhynchosporoides Torrey, l.c. 361
Rynchospora nitens A. Gray, Man. ed. 5, 468. 1867

Wet sandy shores and bogs. Rare. Known in this State only from near Wading River, Long Island.

MARISCUS (Hall.) Zinn, Cat. Hort. Goett. 79. 1757

- Mariscus mariscoides* (Muhl.) Kuntze, Rev. Gen. Pl. 775. 1891
Water bog rush

Schoenus mariscoides Muhl. Gram. 4. 1817
Cladium mariscoides Torrey, Ann. Lyc. N. Y. 3: 372. 1836

In marshes, bogs and on wet shores. Locally abundant in the southeastern part of the State. Frequent or common in the Adirondacks and northern counties and locally across the State. Apparently absent from the region between Westchester county on the south and Rensselaer and Albany counties on the north, including the Catskills.

Common through the coastal marshes, and at North pond, Westchester county, *Taylor* (Fl. Vic. N. Y. 172. 1915). Washington county, *Burnham* (*Torrey* 19: 129. 1919). Hidden lake, Litchfield; Oriskany and common on borders of lakes and ponds in the north woods, *Paine* (Cat. Pl. Oneida Co. 150. 1865). Pond brook, Broome county, *Clute* (Fl. Upper Susquehanna 121. 1898). Mendon, Monroe county; Bergen swamp, Genesee county and in Wayne county (Proc. Rochester Acad. 3: 117. 1896). Junius, Seneca county, *Sartwell*, *Baxter*, *House*. Panther lake, Oswego county, *House*. Onondaga lake, *Rust*. Chase lake, Fulton county, *A. Olsson*.

Numerous Adirondack records are omitted from the above.

SCLERIA Berg. Kongl. Acad. Sv. Handl. 26: 142. *pl.* 4, 5. 1765

1 **Scleria triglomerata** Michx. Fl. Bor. Am. 2: 168. 1803

Tall nut rush, whip grass

In moist meadows and thickets. Oneida county, westward and on Staten Island.

Plains of Rome, *Kneiskern*; Yates county, *Sartwell* (*Paine*, Cat. Pl. Oneida Co. 150. 1865). Mud pond, Wayne county, *Killip* (Proc. Rochester Acad. 5: 79. 1917). Near Rochester, *Booth* (Proc. Rochester Acad. 3: 117. 1896). Staten Island, *Britton & Hollick* (Torr. Club Bul. 12: 40. 1885).

Var. **gracilis** Britton, Ann. N. Y. Acad. Sci. 3: 230. 1885, is reported from Staten Island.

2 **Scleria reticularis** Michx. Fl. Bor. Am. 2: 167. 1803

Reticulated nut rush

A coastal plain species, found in this State only on the south side of Long Island, and at Wading River, where rare and local.

3 **Scleria setacea** Poir. in Lam. Encycl. 7: 4. 1806

Torrey's nut rush

S. reticularis Muhl. Gram. 266. 1817. Not Michx.

S. laxa Torrey, Ann. N. Y. Lyc. 3: 376. 1836. Not R. Br. 1810

S. Torreyana Walp. Ann. 3: 696. 1852-53

S. Muhlenbergii Steud. Nom. ed. 2, 2: 543. 1841

S. reticularis var. *pubescens* Britton, l.c. 232

In sandy, pine-barren swamps. Rare on the south side of Long Island, and at Ronkonkoma.

4 *Scleria pauciflora* Muhl.; Willd. Sp. Pl. 4: 318. 1805

Few-flowered nut rush

S. caroliniana Willd., l.c.*S. Oakesiana* Robbins; Britton, l.c. 234

In dry soil. Seneca and Monroe counties and in Westchester county and on Long Island. Rare.

Rockaway, *Leggett* (Torr. Club Bul. 5: 37. 1874). Hempstead Plains, *Peck* (46th Rep't 50. 1893). Rare in Westchester county, *Taylor*. West Junius marshes, Seneca county, *Wiegand* (Torr. Club Bul. 21: 176. 1894). Greece, Monroe county, *Bradley* (Torrey, Fl. N. Y. 2: 369. 1843 — Paine, Cat. 150. 1865 — Proc. Rochester Acad. 3: 117. 1896).

HYPOPORUM Nees, *Linnaea* 9: 303. 1834**Hypoporum verticillatum** (Muhl.) Nees, l.c. Low nut rush*Scleria verticillata* Muhl.; Willd. Sp. Pl. 4: 317. 1805

In pine-barrens, damp sand, on wet rocks and in marly bogs. Locally abundant in the western part of the State and on Long Island.

Penn Yan, *Sartwell* (Torrey, Ann. Lyc. N. Y. 3: 384. 1836). Junius, Seneca county, *Sartwell*; West Bergen swamp, Genesee county, *Booth*, *Fish*, *Pickett* (Clinton in 19th Rep't Regents 79. 1866; *Peck*, 40th Rep't State Mus. 74. 1887). Mendon ponds, Monroe county, *Baxter* (Proc. Rochester Acad. 3: 117. 1896). Numerous recent collections have been made of this species in Bergen swamp, where it is common on the marly bog.

CAREX L. Sp. Pl. 972. 1753

The specimens of *Carex* in the state herbarium, numbering about 1500 sheets, were critically examined and determined in January, 1921, by Kenneth K. Mackenzie, and his determinations together with authentic published records form the basis for the enumeration of New York state species presented below.

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Vigneae (Beauv.) Koch.

Arenariae

- 1 *Carex gymnocrates* Wormsk.; Drejer, Rec. Crit. Car. 16. 1841
Northern bog sedge

C. dioica Torr. Fl. N. Y. 2: 370. 1843. Not L., 1753

C. Redowskyana Fr. in Schmidt, Reisen in Amurl. 66. 1868

In bogs, northern Lewis county to Herkimer, Wayne and Genesee counties. Rare.

Jordanville, Herkimer county, *Peck* (22d Rep't N. Y. State Mus. 104. 1869), including the var. *substaminata* Peck. Savannah, Wayne county, *Sartwell*; near Rochester, *C. Dewey*; Bergen swamp, Genesee county, *Paine* (Cat. Pl. Oneida Co. 151. 1865; Proc. Rochester Acad. 3: 122. 1896; Clinton in 19th Rep't Regents 79. 1866). Bonaparte swamp, Lewis county, *House*.

Chordorrhizeae

- 2 *Carex chordorrhiza* Ehrh. in L. f. Suppl. 414. 1781
Creeping sedge

In sphagnum bogs and shallow water, northern and western parts of the State. Rare.

East Lake George marsh, at Brayton, Warren county, *Burnham* (Torreya 19: 129. 1919). Hidden lake and Jerusalem marsh, Herkimer county; Oriskany swamp, Oneida county, *Kuciskern*; Junius, Seneca county, *Sartwell*; boggy margins of lakes in the north woods, frequent; St Lawrence river near Ogdensburg, *Crawe* (Paine, Cat. Pl. Oneida Co. 151. 1865). Oneida county, *Kuciskern*, *Gray* (Torrey, Fl. N. Y. 1843). Sodus Point and Mud pond, Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 121. 1896). Moreau, Saratoga county, *E. C. Howe*.

Arenariae

- 3 *Carex Sartwellii* Dewey, Am. Jour. Soc. 43: 90. 1842
Sartwell's sedge

In swamps, Madison to Monroe county. Rare.

Junius, *Sartwell*. Rare, Monroe county, *Booth*, *Baxter*; Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 121. 1896). Men-

don, Monroe county, *Baxter*. Peterboro, Madison county, *House* 8903, June 21, 1922.

4 *Carex siccata* Dewey, Am. Jour. Soc. 10: 278. 1826

Dry-spiked sedge

In dry fields, open woods and on hills. Local or rare across the State south of the Adirondacks, and south in the Hudson valley to Hastings.

South to Hastings, *Taylor* (Fl. Vic. N. Y. 186. 1915). Bald mountain, Rensselaer county, *Peck* (22d Rep't N. Y. State Mus. 104. 1869). Sandy woods west of Albany, *House*. Glenmont, Albany county, *House*. Narrowsburg, Sullivan county, *Peck*. Apalachin, Tioga county, *Fenno*. Penfield, Monroe county, *Baxter* (Proc. Rochester Acad. 3: 122. 1896). Bergen swamp, Genesee county, *G. W. Clinton* (19th Rep't Regents 79. 1866).

Muhlenbergiana

5 *Carex retroflexa* Muhl.; Willd. Sp. Pl. 4: 235. 1805

Reflexed sedge

Infrequent or local across the State south of the Adirondacks. Not reported from the Catskills.

Peaked mountain, Washington county, *Burnham*. Glenmont, Albany county, *House*. Dundee, Yates county, *S. H. Wright*. Rochester, *Holzer*. Cascadilla creek, South Hill and Renwick farm slope, *Dudley* (Cayuga Fl. 111. 1886). Recorded without definite locality by *Day* (Pl. Buffalo, 1883). Catskill, Greene Co., *House*.

6 *Carex rosea* Schk.; Willd. Sp. Pl. 4: 237. 1805

C. rosea var. *minor* Boott, Ill. Car. 2: 81. pl. 224. 1860

C. rosea var. *staminata* Peck; E. C. Howe, 48th Rep't N. Y. State Mus. 132. 1895

In moist woods and thickets. Frequent or common across the State outside of the higher Adirondacks and Catskills, and apparently rare on the coastal plain of Long Island.

7 *Carex convoluta* Mackenzie, Torr. Club Bul. 43: 428. 1916

C. rosea Boott, Ill. Car. 2: 81. pl. 223. 1860

C. rosea var. *pusilla* Peck; E. C. Howe, l.c.

In woods and thickets. Frequent across the State outside of the Adirondacks, and north of the coastal district.

Penn Yan, *Sartwell*, 24. Taberg, Oneida county, *Peck*. Brownville, Jefferson county, *Peck*. Woodville, Jefferson county, *House*. Oswego, *Sheldon*. Canton, St Lawrence county, *Phelps*. Rochester, *House*. Liverpool, Onondaga county, *House*. Oneida, *House*. Portage, *Peck*. Pecksport and Peterboro, Madison county, *House*. Glenmont and Wemple, Albany county, *House*. Lake George, *Kemp*. Binghamton, *Clute*. Catskill, Greene county, *House*. Boonville, Oneida county, *House*. Perch lake, Jefferson county, *House*.

- 8 *Carex radiata* (Wahl.) Small, Fl. SE. U. S. 218. 1903
 Stellate sedge
C. stellata var. *radiata* Wahl. Kongl. Vet. Akad. Handl. (II) 24: 147. 1803
C. rosea radiata Dewey, Am. Jour. Sci. 10: 276. 1826
C. neglecta Tuckerm. Enum. Method. 19. 1843. Not Degl. 1807

In marshy or sphagnous places in woods or thickets. Infrequent across the State.

Cascadeville, Essex county, *Peck*. Woodville, Jefferson county, *House*. Troy, *Emmons*. Sandlake, *Peck*. Glenmont, Albany county, *House*. Oneida county, *Vasey*. Hunter, Greene county, *Britton*. Preston, Chenango county, *Coville*. Tannersville, *Vail*. Morrisville, Madison county, *House*.

- 9 *Carex spicata* Huds. Fl. Angl. 353. 1762
 Lesser Prickly sedge
C. contigua Hoppe, in Sturm, Deutschl. Fl. Heft 61. 1835
C. muricata, of N. Y. Reports, Not L.

Native of Europe and adventive or locally naturalized on Staten Island, about New York City and near Catskill, *House*.

- 10 *Carex Muhlenbergii* Schk.; Willd. Sp. Pl. 4:231. 1805.
 Muhlenberg's sedge

In dry fields and on hills. Usually in sterile or sandy soil. Frequent or locally common across the State outside of the Adirondack region and the higher Catskills. Not reported from the northern tier of counties.

This species is not included by Clute in Flora of the Upper Susquehanna, nor by Dudley in Cayuga Flora, although not rare across the State in the Ontario lowlands, from Oneida lake to Lake Erie.

- 11 *Carex plana* Mackenzie, Torr. Club Bul. 50: 350. 1923
C. Muhlenbergii var. *enervis* Boott, Ill. Car. 124. 1862

In dry soil, usually in open woods, thickets or on hillsides. Infrequent southward in the State.

Yonkers, *Howe*. Cold Spring and Port Jervis, *Peck*. Apalachin. *Fenno*.

- 12 *Carex cephalophora* Muhl.; Willd. Sp. Pl. 4: 220. 1805 *
 Southern sedge

In dry fields and on hills. Frequent across the State outside of the Adirondack and Catskill mountains. Infrequent in the Hudson

* *Carex gravida* Bailey (Torr. Club Mem. 1: 5. 1889), a western species, appears on a sheet in the state herbarium, labeled *C. cephalophora*, Sullivan hill, Chemung county, *T. F. Lucy*, June 18, 1882. The specimen came from the Sheldon herbarium, and a confusion of labels and specimens doubtless has taken place.

valley. Common in the western and southern section of the State. Mount Defiance, southeastern corner of Essex county, appears to be the northern range of the species in the eastern part of the State.

13 **Carex cephaloidea** Dewey, Rep. Pl. Mass. 262. 1849

Thin-leaved sedge

In moist or rich woods and thickets. Infrequent across the State outside of the higher Adirondacks, south to Westchester county.

Pine Plains, Dutchess county, and reported from Westchester county, *Taylor* (Fl. Vic. N. Y. 187. 1915). Banks of the Mohawk between Oriskany and Rome, *Vasey*; Penn Yan, *Sartwell* (Paine, Cat. Pl. Oneida Co. 151. 1865). Chemung county, *Lucy* (Clute, Fl. Upper Susquehanna 126. 1898). Apalachin, Tioga county, *Fenno*. Albany, *House*. Adams, Jefferson county, *Peck*. Lake Bonaparte, Lewis county, *House*. Canton and Potsdam, St Lawrence county, *Phelps*. Pecksport, Madison county, *House*. Fort Ann, Washington county, *Burnham* (*Torreya* 19: 130. 1919).

14 **Carex sparganioides** Muhl.; Willd. Sp. Pl. 4: 237. 1805

Bur-reed sedge

In woods and thickets. Frequent or common across the State outside of the higher Adirondacks. Not reported from the Catskills, and rare on Long Island.

15 **Carex alopecoidea** Tuckerm. Enum. Meth. 18. 1843

Foxtail sedge

In meadows and marshy places. Somewhat rare or local across the State south of the Adirondack region, from Rensselaer south to Dutchess county and westward to Lake Erie. Not reported from the Catskills.

Lansingburg, *H. C. Gordinier*. Pine Plains, *Hoysradt*. Utica, *Haberer*. Penn Yan, *Sartwell*. Ludlowville, Tompkins county, *H. B. Lord*. Lyons, Wayne county, *Peck*. Near Ithaca, Freeville, Marl creek, West Junius and Ludlowville, *Dudley*, (*Cayuga Flora* 111. 1886). Peterboro, Madison county, *House*. Perch lake, Jefferson county, *House*.

16 **Carex conjuncta** Boott, Ill. Car. 3: 122. 1862

Soft foxtail sedge

C. vulpina Carey, in Gray, Man. 541. 1848. Not L. 1753.

In moist meadows and thickets. Rare and local.

Mohawk flats at Utica and Little Falls, *Haberer* (state herbarium).

Multiflorae

- 17 *Carex vulpinoidea* Michx. Fl. Bor. Am. 2: 169. 1803
Fox sedge

In swamps and wet meadows. Common throughout the State. In the Adirondacks common to 2500 feet altitude, and rarely at higher elevations. A hybrid with *C. comosa* is reported by M. S. Baxter (Proc. Rochester Acad. 5: 80. 1917).

- 18 *Carex annectens* Bicknell, Torr. Club Bul. 35: 492. 1908
Yellow fox sedge

C. vulpinoidea var. *ambigua* Barrett, in Boott, Ill. 3: 125. pl. 406. 1862; Suppl. N. Am. Carices No. 62. 1841

C. setacea var. *ambigua* Fernald, Rhodora 8: 167. 1906

C. xanthocarpa annectens Bicknell, Torr. Club. Bul. 23: 23. 1896

In rather dry soil of fields, meadows, and open woods. Frequent or locally abundant southward across the State.

In typical *C. annectens*, the inflorescence is greenish-stramineous, becoming deep brown in age, oval-oblong or more generally linear-oblong; perigynia 2.6-3.2 mm long, almost always nerved on the outer face, beak rather prominent, broad, serrulate, usually plainly notched. Chiefly coastal in distribution, extending less frequently inland to central New York.

- 19 *Carex brachyglossa* Mackenzie, Torr. Club Bul. 50: 355. 1923

C. xanthocarpa Bicknell, Torr. Club Bul. 23: 22. 1896. Not Degland in Loisleur, Fl. Gall. 2: 299. 1807

C. vulpinoidea var. *xanthocarpa* Kukenthal, Pflanzenreich IV²⁰: 148. 1909

C. annectens var. *xanthocarpa* Wiegand, Rhodora 24: 74. 1922

Inflorescence gold-brown, averaging shorter and thicker; spikes less echinate because of the shorter beaks; perigynia smaller, 2.2-2.6 mm long, the wall thicker and essentially nerveless; beak very short, narrower, usually less serrulate and more obscurely notched than in *C. annectens*.

Frequent northward and westward in the State.

- 20 *Carex setacea* Dewey, Am. Jour. Sci. 9: 61. 1825
Bristly-spiked sedge

In upland marshes. Rare and local.

Hidden lake, Litchfield, Herkimer county, Paine (Cat. Pl. Oneida Co. 152. 1865). Penn Yan, Sartwell. Riverdale, New York City and Locust Valley, Long Island, Taylor (Fl. Vic. N. Y. 188. 1915).

Paniculatae

- 21 *Carex diandra* Schrank, in Acta Acad. Mogunt. 49. 1782
Lesser panicled sedge
C. teretiuscula Gooden. Trans. Linn. Soc. 2: 163. pl. 19. 1794

In swamps, marshes and wet meadows. Frequent or common across the State northward. Less common southward to Dutchess

county and reported neither from the Catskills nor from the range of Clute's "Flora of the Upper Susquehanna."

Holm (Canadian Field Nat. 33: 73. 1919) states that the original of *C. diandra* Schrank is a mixture with *C. paradoxa* Willd. and *C. paniculata*, and that the name *C. teretiuscula* Gooden. is to be preferred.

22 *Carex prairea* Dewey, in Wood's Classbook 578. 1855

Prairie sedge

C. teretiuscula var. *ramosa* Boott, Ill. Car. 145. 1867

C. teretiuscula var. *prairea* Britton, in Britton & Brown, Illus. Fl. 1: 344. 1896

C. diandra var. *ramosa* Fernald Rhodora 10: 48. 1908

In bogs and wet meadows. Infrequent or locally common across the State northward, southward to Dutchess and Tompkins counties. Not reported from the southern tier of counties bordering on Pennsylvania.

23 *Carex decomposita* Muhl. Gram. 254. 1817

Large-panicled sedge

In swamps, central and western part of the State. Rare.

Oriskany (in state herbarium). Junius, Seneca county and Penn Yan, Yates county, *Sartwell*. Livingston county, *Hankenson* (Proc. Rochester Acad. 3: 121. 1896).

Stenorrhynchae

24 *Carex stipata* Muhl.; Willd. Sp. Pl. 4: 233. 1805

Awl-fruited sedge

In swamps and wet meadows. Common.

The varieties, *crassicutra* and *subsecuta*, described by Peck, are partly this species and partly referable to the next species.

25 *Carex laevivaginata* (Küken.) Mackenzie, in Britton & Brown, Illus. Fl. ed. 2, 1: 371. 1913

C. stipata var. *laevivaginata* Küken. in Engler Pflanzenreich IV²⁰: 330. 1909

In low meadows and marshy places. Infrequent from Jefferson county and central New York, southward and westward.

Pierrepont Manor, Jefferson county, *Peck*. Cedarville, Herkimer county, *Peck*. Verona, Oneida county, *Peck*. Oneida and Peterboro, Madison county, *House*. Penn Yan, *Sartwell* (Car. Am. Sept. No. 18).

26 *Carex disperma* Dewey, Am. Jour. Sci. 8: 266. 1824

Soft-leaved sedge

C. tenella Schk. Riedge. 23. f. 104. 1801. Not Thuill. 1799

In bogs and cold wet mossy woods. Common across the northern part of the State. Less frequent or local southward to Dutchess, Ulster, Broome and Tioga counties and westward across the State.

Canescentes

27 *Carex trisperma* Dewey, Am. Jour. Sci. 9: 63. 1825

Three-fruited sedge

In mossy woods and bogs. Common across the northern part of the State and south to Rensselaer county and central New York. Less common and often local farther southward to Putnam and Sullivan counties and the southern tier of counties bordering on Pennsylvania. Frequent in the swamps of the Ontario lowlands but less common in the western part of the State.

Var. *Billingsii* Knight, Rhodora 8: 185. 1906. Rare but widely distributed.

Lisbon and Canton, St Lawrence county, *Phelps*. Mendon, Monroe county, *House*. Highland lake, Sullivan county, *Peck*.

28 *Carex canescens* L. Sp. Pl. 974. 1753 Silvery or hoary sedge

In bogs, swamps and marshes, throughout the State. Frequent or common. Rather variable.

Var. *subloliaceae* Laestad. Nov. Act. Soc. Sci. Ups. 11: 282. 1839 (*C. subloliaceae* Bicknell, Torr. Club Bul. 35: 496. 1908). In swamps and on mountains, frequent northward but rare in the southern part of the State.

Var. *disjuncta* Fernald, Proc. Am. Acad. 37: 488. 1902. (*C. disjuncta* Bicknell, l.c. 495). In marshes and swamps, common on Long Island and frequent northward and westward in the State.

Both of these varieties, in their typical forms, are well marked, but intermediate forms are not infrequent, and they depart so slightly from the general characters of the species that they can not be regarded as more than varieties.

29 *Carex tenuiflora* Wahl. Kongl. Vet. Acad. Handl. (II) 24: 147. 1803

Sparse-flowered sedge

In bogs and wet mossy woods. Rare and local.

Formerly in Oriskany swamp, Oneida county, *Kneiskern* June 8, 1840 (Sartwell herbarium). Swamp west of Fort Bull, Rome. *J. A. Paine* (Cat. Pl. Oneida Co. 552. 1865). Ogdensburg, *Crawe* (Torrey, Fl. N. Y. 2: 381. 1843). East Lake George marsh, at Brayton, Warren county, *Burnham*. Hartford, Washington county, *E. C. Howe*. Newcomb, Essex county, *House*. Bonaparte, swamp, Lewis county, *House*.

- 30 *Carex brunnescens* (Pers.) Poir. in Lam. Encycl. Suppl. 3: 286. 1813 Brownish sedge

C. curta var. *brunnescens* Pers. Syn. 2: 539. 1807

C. canescens var. *vulgaris* Bailey, Bot. Gaz. 13: 86. 1888

In wet or dry rocky places. Frequent throughout the Adirondack region and the northern counties of the State. Less frequent, local or rare westward in the State to Oswego county, *Sheldon*; Ontario county, *Baxter*; and south to Dutchess, Greene, Wyoming, Cattaraugus, *Peck*, and Tioga counties, *Fenno*.

- 31 *Carex arcta* Boott, Ill. Car. 155. pl. 497. 1867

Northern clustered sedge

In swamps and wet woods. Probably occurs rarely in the northern part of the State, having been reported from low woods near outlet of Lake Champlain by *Pringle*; Adirondack Mountains, (Fernald, Proc. Am. Acad. 37: 486. 1902) but there are no collections of it in the state herbarium from this State.

Deweyanae

- 32 *Carex Deweyana* Schw. Ann. Lyc. N. Y. 1: 65. 1824

Dewey's sedge

In moist or dry woods. Frequent across the northern part of the State. Less abundant or local southward to Ulster and Greene counties and westward to Tioga county and Lake Erie.

- 33 *Carex bromoides* Schk.; Willd. Sp. Pl. 4: 258. 1805

Broome-like sedge

In dry or moist woods. Frequent across the State outside of the Adirondack region. Occurs at Bonaparte swamp in northern Lewis county, but has not otherwise been reported from the Adirondack region. Not reported from the Catskills.

Stellulatae

- 34 *Carex exilis* Dewey, Am. Jour. Sci. 14: 351. 1828

Coast sedge

In bogs and marshes. Frequent throughout the Adirondack region and the northern counties. Local or rare westward to Wayne county, and on Long Island and in Orange county.

Sag Harbor, *Kneiskern* (Torrey, Fl. N. Y. 2: 371. 1843). Woodmere, Long Island, *Taylor* (Fl. Vic. N. Y. 190. 1915). Suffolk county, *Miller, Young*. Southfield, Orange county, *Peck*. Essex county, *Torrey* (l.c.). Lewis county, *Gilbert* (Torr. Club Bul. 6: 363. 1879). East Lake George marsh, *Burnham*. Onje-bonge pond, Lewis county, *House*. Lily marsh and Mud lake,

Oswego county, *House*. Zurich, Wayne county, *House*; *Hankenson* (Proc. Rochester Acad. 3: 122. 1896). Kasoag, Oswego county, *Peck*. Third lake, Herkimer county, *Paine* (Cat. Pl. Oneida Co. 151. 1865). Fifth lake, Hamilton county, *House*. Newcomb, *House*. Fine, St Lawrence county, *Phelps*.

35 *Carex interior* Bailey, Torr. Club Bul. 20:426. 1893

Inland sedge

C. stellulata var. *scirpoides* Boott, Ill. pl. 146**. 1858

C. scirpoides Robinson & Fernald; Gray's Man. ed. 7, 223. 1908

In damp or wet soil, often in and about the borders of bogs and woodland swamps. Common northward across the State and reported southward to Dutchess county. Locally abundant westward.

36 *Carex Howei* Mackenzie, Torr. Club Bul. 37: 245. 1910

Howe's sedge

C. interior var. *capillacea* Bailey, Torr. Club Bul. 20: 426. 1893

C. delicatula Bicknell, Torr. Club Bul. 35: 495. 1908. Not C. B. Clarke

C. scirpoides var. *capillacea* Fernald Rhodora 10: 47. 1908

In wet soil. Abundant in the pine-barrens of Long Island and elsewhere, usually in white cedar, larch or spruce bogs northward, where it is rare.

Islip, *Peck*. Wading River, *E. S. Miller*. North Greenbush, Rensselaer county, *Peck*. Clayville and New London, Oneida county, *House*. Mud pond, Zurich, Wayne county, *House*. Apalachin, Tioga county, *Fenno*. Lily marsh, Oswego county, *House*.

37 *Carex sterilis* Willd. Sp. Pl. 4: 208. 1805

C. scirpoides Schk. Riedgr. Nachtr 19. f. 180. 1806

C. stellulata vars. *scirpoides* and *sterilis* Carey, in Gray's Man. 544. 1848

C. echinata var. *microstachys* Boeckl. Flora 544. 1875

C. stellulata Robinson & Fernald in Gray's Man. Ed. 7, 222. 1908

In wet, usually open woods and marshy places. Infrequent but widely distributed across the State.

Utica, *A. Gray*. Penn Yan, Yates county, *Sartwell*. Mendon, Monroe county, *House*. Bergen swamp, Genesee county, *Peck*; *House*.

38 *Carex cephalantha* (Bailey) Bicknell, Torr. Club Bul. 35: 493.

1908

Little prickly sedge

C. echinata var. *cephalantha* Bailey, Torr. Club Mem. 1: 58. 1889

C. sterilis var. *cephalantha* Bailey, Torr. Club Bul. 20: 425. 1893

C. stellulata var. *cephalantha* Fernald, Rhodora 4: 222. 1902

C. echinata (Murray, Prodr. Fl. Goth. 76. 1770); Britten, Jour. Bot. 45: 163. 1907; Briq. Prodr. Fl. Corse 1: 199. 1910

In moist soil of woods, marshes and swamps. Common across the northern part of the State and in central New York. Less frequent southward to Long Island and westward to Lake Erie.

In recent floras this species has been variously referred to *C. stellulata* Good. (Trans. Linn. Soc. 2: 144. 1794), to *C. Lcersii* Willd. (Prodr. Fl. Berol. 28. 1787) and to *C. echinata* Murray.

39 **Carex angustior** Mackenzie; Rydberg. Rocky Mt. Fl. 124. 1917 Northern prickly sedge

C. stellulata var. *angustata* Carey, in Gray's Man. 544. 1848
C. echinata var. *angustata* Bailey, Carex Cat. 1884
C. sterilis var. *angustata* Bailey, Torr. Club Bul. 20: 425. 1893

Common throughout the Adirondack region and locally southward to Rensselaer and Albany counties, westward to central New York. Perhaps of wider distribution.

40 **Carex incompta** Bicknell, Torr. Club Bul. 35: 494. 1909 Prickly bog sedge

In boggy places. Frequent across the State south of the Adirondack region, and on Long Island.

Wading river, *Miller*. Hempstead, *House*. Averill Park, Rensselaer county, *House*. Kasoag and Hannibal, Oswego county, *House*. Sylvan Beach, Oneida county, *House*. Penn Yan, *Sartwell*. Bergen swamp, Genesee county, *G. W. Clinton*.

What appears to be a possible hybrid between this and *C. interior*, has been collected at Colosse, Oswego county, and reported and distributed as *C. scirpoides* var. *Josselynii* Fernald, which, according to Mackenzie, it is not.

41 **Carex atlantica** Bailey, Torr. Club Bul. 20: 425. 1893 Eastern sedge

C. stellulata var. *conferta* Chapm. Fl. So. U. S. 534. 1860
C. echinata var. *conferta* Bailey, Carex Cat. 1884; Torr. Club Mem. 1: 58. 1889
C. sterilis Fernald, Proc. Am. Acad. 37. 1902; Gray's Man. ed. 7, 223. 1908

In swamps and marshy woods. Frequent on Long Island. Has been reported inland, especially from the Adirondack region, but erroneously.

42 **Carex rosaeoides** E. C. Howe; Gordinier & Howe, Fl. Rensselaer Co. 33. 1894 Weak stellate sedge

C. scorsa E. C. Howe, l.c. 39

In swampy woodlands. Infrequent across the State south of the Adirondacks.

Long Island, Staten Island, the Bronx and in Westchester county, *Taylor* (Fl. Vic. N. Y. 191. 1915). Lansingburg, *Howe*. Sylvan Beach, Oneida county, *House*. North Syracuse, Onondaga county, *House*.

O v a l e s

- 43 **Carex sychnocephala** Carey, Am. Jour. Sci. (II) 4: 24. 1847
Dense long-beaked sedge

In low meadows and thickets. Rare.

Borders of woods, roadsides between Watertown and Adams, Jefferson county, *Kniciskern* and *Vasey*; Watertown, *Crawc*, *Dezvey*; Little Falls, Herkimer county, *Vasey*, (Paine, Cat. Pl. Oneida Co. 153. 1865). Annsville, Oneida county, *Sartwell*. Canton, St Lawrence county, *Mrs O. P. Phelps*.

- 44 **Carex Crawfordii** Fernald, Proc. Am. Acad. 37: 469. 1902
Crawford's sedge

C. scoparia var. *minor* Boott, Ill. Car. 3: 116. pl. 369. 1862

Open places or rarely in woods. Common throughout the Adirondack region (4000 feet altitude on Mount Marcy, *House*) and the northern counties, and less common or rare southward to Rensselaer and Tioga counties. Distribution westward in the State imperfectly known.

- 45 **Carex scoparia** Schk.; Willd. Sp. Pl. 4: 230. 1805
Pointed broom sedge

In moist soil, sometimes in dry open places or even in woods. Common throughout the State. Two well marked varieties are described, both widely distributed in the State: Var. **moniliformis** Tuckerm. Enum. Meth. 8, 17. 1843 and Var. **condensa** Fernald, Proc. Am. Acad. 37: 470. 1902.

- 46 **Carex tribuloides** Wahl. Knogl. Vet. Akad. Handl. (II) 24: 145. 1803
Blunt broom sedge

C. lagopodioides Schk.; Willd. Sp. Pl. 4: 230. 1805

In wet meadows, swales and low woods. Common throughout most sections of the State. The var. **turbata** Bailey (Torr. Club Mem. 1: 55. 1889), occurs in St Lawrence county and rarely elsewhere.

- 47 **Carex cristatella** Britton, in Britton & Brown, Illus. Fl. 1: 357. 1896
Crested sedge

C. cristata Schw. Ann. Lyc. N. Y. 1: 66. 1824. Not Clairry. 1811

C. tribuloides var. *cristata* Bailey, Torr. Club Mem. 1: 55. 1889

In meadows and thickets. Frequent across the State from Rensselaer county to St Lawrence county and Lake Erie. Not reported from the Adirondack mountains, from the Catskill mountains or the range of Clute's Flora of the Upper Susquehanna. Infrequent southward in the Hudson valley to Bronx county.

- 48 **Carex projecta** Mackenzie, Torr. Club Bul. 35: 264. 1908
Necklace sedge

C. tribuloides moniliformis Britton, in Britton & Brown, Illus. Fl. 1: 356.
1896
C. tribuloides var. *reducta* Bailey, Proc. Am. Acad. 22: 148. 1886

Frequent or common across the northern part of the State and in central New York. Less common southward to Long Island and westward to Monroe and Wyoming counties. Doubtless more widely distributed but not common in the southern tier of counties and in western New York.

- 49 **Carex Bebbii** Olney; Bailey, Bot. Gaz. 10: 379. 1885
Bebb's sedge

C. tribuloides var. *Bebbii* Bailey, Torr. Club Mem. 1: 55. 1889

In low grounds, frequent or locally abundant across the State. Rare on Long Island and uncommon in the southern tier of counties bordering on Pennsylvania.

- 50 **Carex straminea** Willd.; Schk. Riedgr. 49. pl. 34. 1891
Straw sedge

In open woods, meadows or on dry banks. Infrequent or local in southern New York. Northville, L. I. (*E. S. Miller*). Yonkers, *Bicknell*.

- 51 **Carex tenera** Dewey, Am. Jour. Sci. 8: 97. 1824; 9: pl. c. f. 9. 1825
Slender straw sedge

C. festucacea var. *tenera* Carey; A. Gray, Man. 545. 1848
C. straminea var. *tenera* Boott, Ill. Car. 3: 120. pl. 384. 1862

In woods and thickets. Frequent or locally abundant across the State outside of the higher Adirondack mountains, westward to Genesee county and south in the Hudson valley to Dutchess and Ulster counties.

- 52 **Carex normalis** Mackenzie, Torr. Club Bul. 37: 244. 1910
Larger straw sedge

C. mirabilis Dewey, Am. Jour. Sci. 30: 63. pl. Bb. f. 92. 1836. Not Host,
1809
C. straminea var. *mirabilis* Tuckerm., Enum. Meth. 18. 1843

On banks, in open woods and thickets. Frequent or common across the State. Not reported however from the Adirondack region nor from the northern counties in general. Less frequent southward and rare on Long Island. The Var. **perlonga** (Fernald) Burnham, and Var. **tincta** (Fernald) House (*C. mirabilis* var. *tincta*

Fernald), are both infrequent or occasional, but are not markedly distinct from the typical species.

53 *Carex festucacea* Schk.; Willd. Sp. Pl. 4: 242. 1805

Southern fescue sedge

In dry, moist or rocky soil. Infrequent or rare in the southern part of the State and westward in the counties bordering on Pennsylvania. Apalachin, Tioga county, *Fenno*. Penn Yan, *Sartwell* (herb. N. Y. Bot. Garden).

54 *Carex brevior* (Dewey) Mackenzie, Torr. Club Bul. 42: 605. 1915

Common fescue sedge

C. straminea var. *brevior* Dewey, Am. Jour. Sci. 11: 158. 1826

C. festucacea var. *brevior* Fernald, Proc. Am. Acad. 37: 477. pl. 3. f. 49-51. 1902.

In dry, moist or rocky soil of open woods, banks and thickets. Frequent or common across the State and probably of wider distribution than indicated below.

Warrensburg, Warren county, *Peck*. Hudson Falls, Washington county, *Burnham*. Mount Merino, Columbia county, *Peck*. Port Jervis, *Peck*. Fishkill mountains, *Peck*. Penn Yan, Yates county, *Sartwell*. Brownville, Jefferson county, *House*.

55 *Carex Merritt-Fernaldii* Mackenzie, Torr. Club Bul. 49: 370. 1923

Stout fescue sedge

C. festucacea Robinson & Fernald; Gray's Man. ed. 7, 220, 1908

C. brevior var. *pseudofestucacea* Farwell, Papers Mich. Acad. Sci. 2: 18. 1922

Moist thickets and open woods. Infrequent across the State.

Middle Grove, Saratoga county, *Peck*. East Galway, Saratoga county, *E. A. Burt*. West Fort Ann, Washington county, *Burnham*.

56 *Carex Bicknellii* Britton, in Britton & Brown, Illus. Fl. 1: 360. 1896

Bicknell's sedge

C. straminea var. *Crawei* Boott, Ill. Car. 3: 121. pl. 388. 1862

In dry or rocky soil. Local or infrequent.

Westchester and Dutchess counties and in the Bronx, *Taylor* (Fl. Vic. N. Y. 193. 1915). Little Stissing mountain, Dutchess county, *Peck*. Ludlowville, Tompkins county, *H. B. Lord*. Glenmont, Albany county, *House*.

57 *Carex hormathodes* Fernald, Rhodora 8: 165. 1906

Marsh straw sedge

C. straminea var. *invisa* Boott, Bot Gaz. 9: 86. 1884

C. tenera Britton & Brown, Illus. Fl. ed. 1, 1896. Not Dewey

In wet soil, chiefly near the coast, on Long Island and on Staten Island and in the Bronx. Infrequent.

Islip, *Peck*. Long Beach, *House*. Montauk Point, *Peck*. Manorville, *Peck*. Suffolk county, *H. W. Young*.

58 **Carex Richii** (Fernald) Mackenzie, l.c. 362 Rich's sedge*Carex tenera* var. *Richii* Fernald, Proc. Am. Acad. 27: 475. 1902*C. hormathodes* var. *Richii* Fernald, Rhodora 8: 165. 1906

In marshes and low ground, chiefly near the coast from Massachusetts to New Jersey and southward. Probably occurs on Long Island, but has not been definitely reported from there.

Sartwell's Car. Am. Sept. No. 44, labelled as collected at Penn Yan, is this species. His No. 76, is *C. hormathodes* in part and is labelled as having been received from Olney (Rhode Island). It is possible that his No. 44, at least the specimen in the state herbarium, is incorrectly labelled, or that the material was mixed in the distribution.

59 **Carex cumulata** (Bailey) Mackenzie, l.c. 366*C. straminea* var. *cumulata* Bailey, Torr. Club Mem. 1: 23. 1889*C. suberecta* of N. Y. Reports, not (Olney) Britton

In moist soil. Rare. Karner, Albany county, *House*; and Whites-town, Oneida county, *Haberer*. Pine Plains, Dutchess county (*Taylor*, l.c.).

60 **Carex alata** Torr. Ann. Lyc. N. Y. 3: 396. 1836

Broad-winged sedge

In moist soil. Rare but rather widely distributed across the State south of the Adirondack region.

Morristown, St Lawrence county, *Mrs O. P. Phelps*. Paddy lake, Oswego county, *Sheldon*. Baldwinsville, Onondaga county, *House*. Junius, Seneca county, *S. H. Wright*. East Lake George marsh, at Brayton, Warren county, *Burnham*. Riverhead and Montauk Point, Long Island, *Peck*. Rare on Long Island, reported from Bronx and Westchester counties, *Taylor* (Fl. Vic. N. Y. 193. 1915). Colosse, Oswego county, *House*.

61 **Carex Longii** Mackenzie, Torr. Club Bul. 49: 373. 1923

Greenish-white sedge

C. albolutescens N. Y. Reports, not Schw.

In wet soil, chiefly along the coast. Rarely inland.

Common throughout the coastal plain of Long Island. Riverhead and Montauk Point, *Peck*. Long Beach, *House*.

62 **Carex silacea** Olney, Proc. Am. Acad. 7: 393. 1868

Sea-beach sedge

C. straminea var. *moniliformis* Tuckerm. Enum. Meth. 17. 1843*C. foenea* var. *sabulorum* A. Gray, Man. ed. 5, 580. 1867

Frequent or common in the coastal sands of Long Island and Staten Island.

- 63 **Carex leporina** L. Sp. Pl. 973. 1753 Hare's-foot sedge
In dry places. Native of Europe and reported as adventive or naturalized in southern New York.

- 64 **Carex aenea** Fernald, Proc. Am. Acad. 22: 480. 1902 Fernald's hay sedge
C. foenea var. *sparsiflora* E. C. Howe, 48th Rep't N. Y. State Mus. 44. 1895
In dry places in open woods, thickets and on banks. Infrequent or rare across the northern part of the State and south to Herkimer and Albany counties.

Whitehall, Washington county, *Peck*. North Elba, *Peck*. Newcomb, Essex county, *House*. Pierrepont Manor, Jefferson county, *Peck*. Cedarville, Herkimer county, *Peck*. Helderberg mountains, *Peck*.

Carex adusta Boott, has been reported from this State by Kükenthal (Engler's Pflauzenreich IV²²: 204. 1909), and may be looked for in the northern part.

- 65 **Carex foenea** Willd. Enum. 957. 1809 Hay sedge
C. argyrantha Tuckerm.; Wood, Classbook, 753. 1860

In dry woods and thickets and on banks. Infrequent across the State south of the Adirondack mountains.

Westchester, Rockland, Dutchess and Delaware counties, *Taylor* (Fl. Vic. N. Y. 194. 1915). Highland lake, Sullivan county, *Peck*. Stissing mountain, Dutchess county, *Peck*. Vaughns, Washington county, *Burnham*. Sandlake, Rensselaer county, *Peck*. Little Falls, *House*. Cooperstown Junction, *Peck*. South Trenton, Oneida county, *Paine* (Cat. 152. 1865). Summit Park, Oneida county, *Haberer*. Commonly merging into a stouter form described as Var. **perplexa** Bailey (Torr. Club Mem. 1: 27. 1889).

Eucarex Griseb

Phyllostachyae

- 66 **Carex Willdenowii** Schk.; Willd. Sp. 4: 211. 1805 Willdenow's sedge

In dry woods and thickets. Rare or local across the State.

Haverstraw, *Austin* (Torr. Club Bul. 6: 9. 1875). Pine Plains, Dutchess county and Bronx Park, *Bicknell* (Taylor, Fl. Vic. N. Y. 194. 1915). Penn Yan, Yates county, *Sartwell*. Watertown, Jefferson county, *Crawe*, *Gray*, *Kneiskern* (Paine, Cat. Pl. Oneida Co. 154. 1865). Western New York, *Vasey*. Not uncommon, *Dudley* (Cayuga Flora, 110. 1886).

- 67 **Carex Jamesii** Schw. Ann. Lyc. N. Y. 1: 67. 1824 James's sedge
C. Steudelii Kunth, Enum. 2: 480. 1837

In dry woods and thickets. Jefferson county southward and westward. Rare.

Watertown, *Wood*, *Dewey* (Paine, Cat. 154. 1865). Near Ithaca, *Dudley* (36th Rep't N. Y. State Mus. 40. 1884). Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 121. 1896).

68 *Carex durifolia* Bailey, Torr. Club Bul. 20: 372. 1893

Back's sedge

C. Backii Boott; Hook, Fl. Bor. Am. 2: 210. pl. 209. 1840. Not *C. Backana*, Dewey, 1836

In woods and thickets, St Lawrence and Jefferson counties. Rare.

Island in Perch lake, *Crawe*, *Dewey*; Watertown, *Kneiskern*; Dexter, *Vasey* (Paine, Cat. Pl. Oneida Co., 154. 1865). Jefferson county, *Wood* (Sartwell Car. Am. Sept. 9). Gouverneur, St Lawrence county, *Mrs O. P. Phelps*.

69 *Carex leptalea* Wahl. Kongl. Vet. Acad. Handl. (II) 24: 139. 1803

Bristle-stalked sedge

C. polytrichoides Muhl.; Willd. Sp. Pl. 4: 213. 1805

C. microstachya Michx. Fl. Bor. Am. 2: 169. 1803

In bogs and swamps. Common throughout the State except on Long Island and Staten Island, where it is rare or local.

Pauciflorae

70 *Carex pauciflora* Lightfl. Fl. Scot. 543. pl. 6. 1777

Few-flowered sedge

C. leucoglochin Ehrh.; Paine, Cat. Pl. Oneida Co. 154. 1865

Caričinella pauciflora St Lager, in Cariot, Etud. des Fleurs. ed. 8, 2: 881. 1880

In sphagnum bogs. Frequent or common across the northern part of the State and throughout the Adirondack region. Less frequent or rare south to Rensselaer and Delaware Counties, west to Tompkins and Wayne counties.

71 *Carex scirpoidea* Michx. Fl. Bor. Am. 2: 171. 1803

Scirpus-like sedge

Alpine summits of the highest Adirondacks. Rare.

Summit of Mount Marcy, *Peck* (27th Rep't N. Y. State Mus. 113. 1877). Wallface mountain, *Peck* (52d Rep't 654. 1899). Whiteface mountain and Avalanche lake, *Peck*. Mount Marcy, *Killip*. (See also: 54th Rep't 161. 1901. Bul. N. Y. State Mus. 28: 143. 1899).

72 *Carex caryophyllea* Latourrette, Chlor. Lugdun, 27. 1785

Vernal sedge

Native of Europe. Established at Riverside, New York City, *Taylor* (Fl. Vic. N. Y. 194. 1915).

Montanae

- 73
- Carex communis*
- Bailey, Torr. Club Mem. 1: 41. 1889

Fibrous-rooted sedge

C. varia var. *pedicellata* Dewey, Am. Jour. Sci. 11: 163. 1826*C. pedicellata* Britton, Torr. Club Mem. 5: 87. 1894

In dry soil, usually in open woods. Common or frequent across the northern part of the State and in central New York. Occurs in the Adirondacks on mountain summits and ridges up to 3500 feet altitude. Less common westward and southward in the State and apparently absent from the coastal plain of Long Island.

- 74
- Carex leucorum*
- Willd. Enum. Hort. Berol. Suppl. 63. 1813

C. pennsylvanica var. *distans* Peck, 46th Rep't N. Y. State Mus. 51. 1893*C. pennsylvanica* var. *separans* Peck; Howe in 48th Rep't N. Y. State Mus. 174 (Bot. ed. 75). 1895*C. pennsylvanica* var. *leucorum* Fernald, Proc. Am. Acad. 37: 505. 1902

In dry, usually sandy soil. Frequent and widely distributed across the State outside of the Adirondack region.

Gloversville, *A. Olsson*. New London, Oneida county, *House*. Rome, *Haberer*. Lerayville, Jefferson county, *Peck*. Junius, Seneca county, *Peck*. Palmer's glen, Rochester, *House*. Coopers-town Junction, *Peck*.

- 75
- Carex pennsylvanica*
- Lam. Encycl. 3: 388. 1789

Pennsylvania sedge

In dry, usually sandy or rocky soil. Common throughout most sections of the State, but rather rare or local in the northern counties and the northern Adirondack region. Rather variable.

Var. *gracilifolia* Peck; E. C. Howe in 48th Rep't N. Y. State Mus. 174. 1895 (var. *angustifolia* Peck, 46th Rep't 51. 1893), is frequent on Long Island. Forma *bracteata* Peck (46th Rep't 51. 1893), is described from Karner, Albany county.

A hybrid between *C. pennsylvanica* and *C. umbellata* has been collected in Westchester county by *E. C. Howe*.

Var. *glumabunda* Peck, 48th Rep't N. Y. State Mus. 174. 1895

There are certain characters which indicate that this may be a hybrid between *C. pennsylvanica* and *C. tonsa*. Represented in the state herbarium by 3 collections, all from Islip, Long Island, made by Doctor Peck.

- 76
- Carex varia*
- Muhl.; Wahl. Kongl. Vt. Acad. Handl. (11) 24:

159. 1803

Emmons's sedge

C. alpestris Dewey, Am. Jour. Sci. 7: 268. 1824; Schw. & Torr. Ann. Lyc. N. Y. 1: 341. 1825. Not Allioni*C. Davisii* Dewey, Car. No. 279. 1826. Not Schw. & Torr.*C. Emmonsii* Dewey; Torr. Ann. Lyc. N. Y. 3: 411. 1836

On banks and in open and rather dry woods. Common across the State from Lake Champlain to Lake Ontario, Lake Erie and southward outside of the Adirondacks. Frequent on exposed summits and ridges, but not reported from northern counties.

According to Bicknell (Torr. Club Bul. 35: 489-491. 1908), the name *C. Emmonsii* should be restricted in use to the southern form of this species, common especially on the coastal plain of Long Island, and which he regards as distinct from the more northern *C. varia*.

- 77 **Carex novae-angliae** Schw. Ann. Lyc. N. Y. 1: 67. 1824
New England sedge

Open woods and exposed ridges and banks. Frequent across the northern part of the State, south to Dutchess county and the Catskill mountains and westward to Herkimer and Lewis counties.

Mount Marcy, *Dewey*; Essex county, *Kneiskern*; Lake Sanford, *Kneiskern* (Paine, Cat. Pl. Oneida Co. 155. 1865). East Windham in the Catskills and Pine Plains, Dutchess county, *Taylor* (Fl. Vic. N. Y. 195. 1915). Grafton, Sandlake and North Greenbush, Rensselaer county, *Peck*. North Elba, *Peck* (N. Y. State Mus. Bul. 28: 154. 1899). Atwell, Herkimer county, *Haberer* (Rhodora 7: 107. 1905). Summit of Bald mountain, Herkimer county, *House*. Summit of Black Bear mountain, Inlet, Hamilton county, *House*. Summit of Vandewracker mountain, 3000 feet altitude, Essex county, *House*. Canton, St Lawrence county, *Mrs O. P. Phelps*.

- 78 **Carex Peckii** E. C. Howe, 47th Rep't N. Y. State Mus. 40. 1894; 48th Rep't 177. 1895. Peck's sedge

C. Emmonsii var. *elliptica* Boott, Ill. Car. pl. 287; Paine, Cat. Pl. Oneida Co., 155. 1865
C. albicans of N. Y. Reports, Not Willd.

Open woods and banks. Infrequent across the northern part of the State, southward to the Helderberg mountains of Albany county and westward to Monroe county.

Brownville, Jefferson county, *Peck*. Norfolk and DeKalb, St Lawrence county, *Mrs O. P. Phelps*. Warrensburg, Warren county, *Peck*. Elizabethtown, Essex county, *Peck*. Lake Bonaparte, Lewis county, *House*. Helderberg mountains, Albany county, *Peck*. North Bay, Oneida county, *House*. Trenton Falls, Oneida county, *Heberer*. Yates and Monroe counties, *Dewey* (according to Boott and Paine, l.c.). Newcomb, *House*.

- 79 **Carex deflexa** Hornem. Plantel. ed. 3, 1: 938. 1821
Northern sedge

In open places, chiefly at rather high altitudes in the northern part of the State. Rare.

North Elba, *Peck*. Whiteface mountain, *Peck*. Lake Placid,

Peck. Mud pond and Notch road, North Elba, *Peck* (N. Y. State Mus. Bul. 28: 143. 1899). Wells, Hamilton county, *Peck*. Summit of Black Bear mountain, Inlet, Hamilton county, *House*. Summit of Bald mountain, Herkimer county, *House*. Canton and Norfolk, St Lawrence county, *Mrs O. P. Phelps*. Newcomb, Essex county, *House*.

80 *Carex nigromarginata* Schw. Ann. Lyc. N. Y. 1: 68. 1824

Dry soil on Long Island. Rare. Collected by Leggett at Babylon, L. Isl., according to Mackenzie (Torr. Club Bul. 40: 535 1913)

81 *Carex umbellata* Schk.; Willd. Sp. Pl. 4: 290. 1805

Umbellate sedge

C. umbellata var. *brevirostris* Boott; Ill. Car. 2: 99. pl. 294. 1860

C. abdita Bicknell, Torr. Club Bul. 35: 492. 1908

In dry, usually sandy or rocky soil. Infrequent and range imperfectly known.

Vaughns, Washington county, *Burnham*. Rome, Oneida county, *Habercr.* Penn Yan, Yates county, *Sartwell* (Car. Am. Sept. 104). Whitesboro, Oneida county, *Habercr.* Yonkers, *E. C. Howe*. Sparrowbush, Orange county, *Britton*. Richmond Hill and Jamaica, Long Island, *Bicknell*. Glenmont, Albany county, *House*. North Creek, Warren county *House*.

82 *Carex rugosperma* Mackenzie, Torr. Club Bul 42: 621. 1915

C. umbellata var. *vicina* Dewey, Am. Jour. Sci. 10: pl. D, fig. 13. 1826; 11: 317. 1826

C. umbellata Britton & Brown, Illus. Fl. ed. 2, 1: 394. 1913

In dry soil, usually in sandy or rocky places. Common across the State outside of the higher Adirondacks and Catskills.

Vaughns, Washington county, *Burnham*. Northampton, Fulton county, *House*. North Bay, Oneida county, *House*. Glenmont, Albany county, *House*. West Albany, *Peck*. Sylvan Beach, Oneida county, *House*. Little Falls, *A. Gray*. Whitesboro, Oneida county, *Habercr.* Yonkers, *Howe*. Highlands of the Hudson, *Torrey* (according to Mackenzie).

83 *Carex tonsa* (Fernald) Bicknell, Torr. Club Bul. 35: 492. 1908

Deep-green sedge

C. umbellata var. *tonsa* Fernald, Proc. Am. Acad. 37: 507. 1902

In dry, usually sandy soil, or sometimes in thin soil on rocky ledges. On Long Island, and from Albany county westward to the Ontario lowlands.

Wading river, *E. S. Miller*. Valley Stream and Woodmere, Long Island, *Bicknell*. Little Falls, *House*. New London, Oneida county, *House*. East Rochester, Monroe county, *Baxter*. West Albany, *Peck*, *House*.

Triquetrae

- 84 **Carex hirtifolia** Mackenzie, Torr. Club Bul. 37: 244. 1910

Pubescent sedge

C. pubescens Muhl.; Willd. Sp. Pl. 4: 281. 1805. Not Poir. 1789

In woods and thickets. Frequent or local across the State outside of the Adirondack region.

Greenbush, Rensselaer county, *Peck*. Utica, *Haberer*. Whitesboro; Oriskany, *Kuciskern*; Watertown, *Gray* (Paine, Cat. Pl. Oneida Co. 156. 1865). Long Island, Bronx, Westchester and Dutchess counties, *Taylor* (Fl. Vic. N. Y. 196. 1915). Barton, Tioga county, *Fenno* (Clute, Fl. Upper Susquehanna 125. 1898). Penn Yan, *Sartwell*. Corrollton, Cattaraugus county, *Peck*. Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 121. 1896). Wemple, Albany county, *House*.

Pedunculatae

- 85 **Carex pedunculata** Muhl.; Willd. Sp. Pl. 4: 222. 1805

Long-stalked sedge

In dry or moist woods and on banks. Common across the State southward to Dutchess and Greene counties and westward. Reported from Westchester county.

Digitatae

- 86 **Carex Richardsonii** R. Br., Frankl. Jour. 751. 1823

Richardson's sedge

In dry soil. The only record for this State rests upon a collection made at Parma, Monroe county, many years ago by *Bradley* (Paine, Cat. 161. 1865; Proc. Rochester Acad. 3: 120. 1896). Not recently collected. The specimen from Bradley in state herbarium is labelled "Greece, Monroe county."

- 87 **Carex eburnea** Boott; Hook. Fl. Bor. Am. 2: 116. *pl.* 225.

1840

Bristle-leaved sedge

C. alba Dewey, Am. Jour. Sci. 7: 266. 1824. Not Scop.

C. alba var. *setifolia* Dewey, l.c. 11: 316. 1826

C. paupercula Torr. Ann. Lyc. N. Y. 3: 415. 1836. Not Michx.

C. vaginata var. *altocaulis* Dewey, Am. Jour. Sci. (II) 41: 227. 1866

In dry sandy or rocky soil, preferring limestone ledges, but sometimes in swamps. Infrequent or local across the State, outside of the higher Adirondack region, south in the Hudson valley to Dutchess county, and formerly on Manhattan Island. Not reported by Clute from the region of the upper Susquehanna, but occurs locally throughout the western part of the State.

Bicolores

88 *Carex aurea* Nutt. Gen. 2: 205. 1818 Golden-fruited sedge

In wet meadows, springs and in bogs; sometimes on wet rocks. Frequent across the State (except on the highest Adirondack mountains), southward to Dutchess and Tompkins county, and westward to Lake Erie. Not reported by Clute from the region of the upper Susquehanna.

89 *Carex Hassei* Bailey, Bot. Gaz. 21: 5. 1896 Hasse's sedge

C. aurea var. *celsa* Bailey, Mem. Torr. Club. 1: 75. 1889

C. bicolor in Robinson & Fernald, Gray's Man. ed. 7, 232. 1908. Not Allioni

In moist or wet meadows. Erie county westward. Rare in this State, the only collection being from Collins, Erie county, made by Dr Anne E. Perkins in 1920.

Paniceae

90 *Carex livida* (Wahl.) Willd. Sp. Pl. 4: 285. 1805

Livid sedge

C. limosa var. *livida* Wahl. Kongl. Vet. Acad. Handl. (II) 24: 162. 1803

C. Grayana Dewey, Am. Jour. Sci. 25: 141. pl. S, fig. 59. 1834

In bogs and marshes. Very rare.

Formerly in Oriskany swamp, *Kneiskern, Vasey*; Litchfield, Herkimer county, *Paine* (Cat. Pl. Oneida Co. 159. 1865). Oriskany, *A. Gray*, June 1832. More recently collected in southern Herkimer county at Litchfield and state marsh by *Gilbert, Peck, Haberer* and others. Mendon, Monroe county, *E. P. Killip*. The Sartwell distribution No. 66, is labelled "Oneida, *Vasey*," but was probably collected in Oriskany swamp, Oneida county.

91 *Carex tetanica* Schk. Reidgr. Nachtr. 68. figs. 100, 207. 1806

In meadows and wet woods. Rare and local across the State south of the Adirondacks.

Troy, *Emmons*. Junius, Seneca county, *Sartwell*. Penn Yan, Yates county, *Sartwell* (ex Olney). Mendon, Monroe county, *House*. Sullivan, Ontario county, *Baxter*. Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 120. 1896). In the Bronx, Westchester and Dutchess counties and reported from Long Island, *Taylor* (Fl. Vic. N. Y. 197. 1915).

Carex Meadii Dewey, has been collected in Delaware and Bucks counties, Pa., but is not definitely known from New York.

92 *Carex Woodii* Dewey, Am. Jour. Sci. (II) 2: 249. 1846

Wood's sedge

C. tetanica var. *Woodii* Bailey, Torr. Club Mem. 1: 53. 1889

C. colorata Mackenzie, Torr. Club Bul. 37: 232. 1910

In woods and meadows. Very rare in this State.

Perch lake, Jefferson county, *Wood, Crowe, Dewey*; Dexter, Jefferson county, *Vasey* (Paine, Cat. Pl. Oneida Co. 159. 1865). Watertown, *Wood* (Sartwell's No. 79). Pavilion, Genesee county, *E. J. Hill* (Proc. Rochester Acad. 5: 32. 1910). Freeville, Tompkins county, *W. R. Dudley*.

- 93 *Carex vaginata* Tausch, Flora 557. 1821 Sheathed sedge
C. vaginata var. *altocaulis* Dewey, Am. Jour. Sci. (II) 41: 227. 1866
C. saltuensis Bailey, Torr. Club Mem. 1: 7. 1889
C. altocaulis Britton, in Britton & Brown, Illus. Fl. 1: 326. 1896

In boggy woods and wooded mossy swamps. Uncommon or rare across the northern part of the State and west to Genesee county.

Bergen swamp, Genesee county, *Paine* (Cat. Pl. Oneida Co. 159. 1865), since collected here by several botanists. North Elba, Essex county, *Peck* (N. Y. State Mus. Bul. 28: 143. 1899). Bonaparte swamp, northern Lewis county, *House*.

- 94 *Carex polymorpha* Muhl. Gram. 239. 1817 Variable sedge
Wet meadows and borders of woods. Rare and local. Reported by *Taylor* (Fl. Vic. N. Y. 197. 1915), from Hempstead and Rose-dale, Long Island.

Laxiflorae

- 95 *Carex plantaginea* Lam. Encycl. 3: 392. 1789
Plantain-leaved sedge

In moist open woodlands, usually in rich soil or among broken rocks. Common throughout most sections of the State but in the northern and higher Adirondacks, confined to rich humus in mixed, well drained forests, below 2000 feet altitude. Not reported from south of Westchester and Rockland counties.

- 96 *Carex Careyana* Torrey; Dewey, Am. Jour. Sci. 30: 60. f. 88. 1836
Carey's sedge

In woods and thickets. Jefferson county south to Oneida county and westward. Rare.

Jefferson county, *Wood*; Auburn, *Carey*; Genesee river, *W. Boott*; Henrietta, Genesee county, *Paine* (Cat. Pl. Oneida Co. 157. 1865). Wayne county, *Hankenson*; Mendon, Monroe county, *Baxter* (Proc. Rochester Acad. 3: 120. 1896; 5: 31. 1910). Brockport, *Baxter*. Pittsford, *Baxter*.

- 97 *Carex platyphylla* Carey, Am. Jour. Sci. (II) 4: 23. 1847
Broad-leaved sedge

In woods and thickets. Locally abundant across the State outside of the Adirondacks.

Westchester, Ulster, Sullivan and Dutchess counties and the Bronx,

Taylor (Fl. Vic. N. Y. 198. 1915). Troy, *Emmons*. North Greenbush, Rensselaer county, *Peck*. Elmira, Chemung county, *T. F. Lucy*. Vaughns, Washington county, *Burnham*. DeKalb, St Lawrence county, *Phelps*. Brownville, Jefferson county, *Peck*. Altamont, Albany county, *Peck*. Herkimer county, *Paine*, *Haberer*. Ludlowville, Tompkins county, *H. B. Lord*. Rochester and Corning, *Holzer*. Penn Yan, Yates county, *Sartwell*. Syracuse, *Fairbanks*. Macedon, *Baxter*. Common in Monroe county (Proc. Rochester Acad. 3: 120. 1896). Chittenango creek ravine, Madison county, *Paine* (Cat. 157. 1865). Catskill, Greene county, *House*. Perch lake, Jefferson county, *House*.

98 *Carex abscondita* Mackenzie, Torr. Club Bul. 37: 244. 1910
Thicket sedge

C. ptychocarpa Steud. Syn. Pl. Cyp. 234. 1855. Not Link, 1799

Reported as frequent on Long Island, south of the moraine, and occasional north of it.

99 *Carex digitalis* Willd. Sp. Pl. 4: 298. 1805
Slender wood sedge

C. Vavilovskii Schw. Ann. Lyc. N. Y. 1: 69. 1824

In woods and thickets. Frequent or common throughout the State except in the pine-barrens of Long Island and the extensive sandy sections of Albany, Oswego, Oneida and Monroe counties, where it is rare or absent. Not reported from the Adirondack mountains.

100 *Carex laxiculmis* Schw. Ann. Lyc. N. Y. 1: 70. 1824
Spreading sedge

C. retrocurva Dewey, in Wood's Bot. 423. 1845

In woods and thickets. Frequent across the State but not reported from the coastal plain of Long Island or from Staten Island. Rare or at least not reported from the Adirondack region. The Var. *copulata* (Bailey) Fernald (Rhodora 8: 183. 1906) has about the same range but is less frequent.

101 *Carex albursina* Sheldon, Torr. Club Bul. 20: 284. 1893
White bear sedge

C. laxiflora var. *latifolia* Boott, Ill. Car. 38. 1858

In rich woodlands. Frequent across the State southward to Westchester county, and reported from Long Island.

The state herbarium contains no specimens from the Adirondack mountains, and this species may not occur there.

- 102 *Carex blanda* Dewey, Am. Jour. Sci. 10: 45. 1826
Woodland sedge

C. laxiflora var. *varians* Bailey, Torr. Club Mem. 1: 32. 1889

In moist or rich woodlands. Frequent or common in nearly all sections of the State, but like the preceding, the state herbarium has no specimens from the Adirondacks.

- 103 *Carex leptonervia* Fernald, Rhodora 16: 214. 1914
Northern woodland sedge

C. laxiflora var. *leptonervia* Fernald, Rhodora 8: 184. 1906

In moist open woodlands and thickets. Common across the State northward, south to the Catskill mountains and central New York. Perhaps of wider distribution westward in the State. Very common and the chief representative of this group of sedges throughout the entire Adirondack region, where it is found up to 4500 feet altitude. (Mount Marcy above Lake Tear, *House*).

- 104 *Carex anceps* Willd. Sp. Pl. 4: 278. 1805
Two-edged sedge

C. anceps var. *patulifolia* Dewey; Wood's Bot. 423. 1845

C. laxiflora var. *patulifolia* Carcy, Gray's Man. ed. 2, 524. 1856

In woods and thickets. Frequent throughout most sections of the State, except the coastal plain of Long Island and not reported from the higher Adirondacks, but frequent both east and west of the mountains, and especially across the middle part of the State.

- 105 *Carex striatula* Michx. Fl. Bor. Am. 2: 173. 1803
Striate sedge

C. laxiflora Boott, Ill. t. 89. 1858. Not Lam.

C. laxiflora var. *divaricata* Bailey, Torr. Club Mem. 1: 33. 1889

C. laxiflora var. *Michauxii* Bailey, Torr. Club Mem. 1: 32. 1889

In woods and thickets. A southern species reported from Staten Island by *Taylor* (Fl. Vic. N. Y. 199. 1915).

- 106 *Carex styloflexa* Buckley, Am. Jour. Sci. 45: 174. 1843
Bent sedge

C. laxiflora var. *styloflexa* Boott, Ill. Car. 37. 1858

In woods and thickets. A southern species reported by *Taylor* (l.c.) from Staten Island, Long Island and north to Westchester and Orange counties.

- 107 *Carex laxiflora* Lam. Encycl. 3: 392. 1789
Loose-flowered sedge

C. heterosperma Wahl. Kongl. Acad. Handl. (II) 24: 151. 1803

In meadows and thickets. Widely distributed but apparently infrequent across the State south of the Adirondacks.

Feura Bush and Voorheesville, Albany county, *Peck*. New Baltimore, Greene county, *Peck*. Catskill, *House*. Tioga county, *Fenno*. Carrollton, Cattaraugus county, *Peck*.

Var. *gracillima* Boott; Gray's Man. Ed. 7, 1908

C. laxiflora Lam. var. *blanda*, subvar. *gracillima* Boott, Ill. 1: 38, pl. 91. f. 2. 1858

A well-marked, and probably distinct species, of moist woodlands from Essex county southward. North Elba, Lake Mohonk and Selkirk, *Peck*.

108 *Carex ormostachya* Wiegand, *Rhodora* 24: 196. 1922

This is based upon *C. laxiflora intermedia* Boott (Ill. Car. 37. 1858), and in part on *C. laxiflora* var. *intermedia*, Bailey (Proc. Am. Acad. 22: 115. 1886). It is said to differ from *C. albursina*, *C. blanda* and *C. laxiflora* by perigynia with a narrow and sharp, more beak-like, straight or only slightly oblique apex, from *C. anceps* by basal sheaths purple at least when young, and angles of culms plainly granulose. The range is given as Quebec to Massachusetts, Pennsylvania and Lake Superior. New York collections cited are: Alcove, Albany county, *Shear*; DeKalb and Nicholville, St Lawrence county, *Mrs O. P. Phelps*.

Granulares

109 *Carex Shriveri* Britton, Man. 208. Shriver's sedge

C. Haleana Carey, Car. Bor. Am. 6. 1871. Not *C. Halei* Dewey, 1846
C. granularis var. *Shriveri* Britton, in B. & B. Illus. Fl. 1: 322. 1896

In moist meadows. Common across the State outside of the Adirondack region, and also on Long Island.

110 *Carex granularis* Muhl.; Willd. Sp. Pl. 4: 179. 1805

Meadow sedge

In moist meadows. Frequent in most sections of the state, except at high altitudes. Many records of this doubtless refer, in part at least, to the preceding and often more common species.

111 *Carex Crawei* Dewey; Torrey, Fl. N. Y. 2: 408. 1843

Crawe's sedge

C. heterostachya Torrey, Am. Jour. Sci. II. 2: 248. 1846

In moist meadows, banks and in marly bogs. Herkimer and Jefferson counties westward across the State.

Banks of the Black river, Watertown, *Crawe* (Torrey, Fl. N. Y. 2: 408. 1843). Mouth of the Black river, Sackett's Harbor, *Vasey*; Cedar lake, Litchfield, Herkimer county; swamps of West Bergen, Genesee county, *Paine* (Cat. Pl. Oneida Co. 161. 1865; Proc. Rochester Acad. 3: 119. 1896).

Oligocarpae

- 112 *Carex oligocarpa* Schk.; Willd. Sp. Pl. 4: 279. 1805

Few-fruited sedge

In dry woods and thickets. Infrequent or rare, but somewhat widely distributed across the State.

Yonkers, *Howe & Pooley*. Pine Plains, Dutchess county, *Taylor* (Fl. Vic. N. Y. 200. 1915). Rome, *Kneiskern*; banks of Wood creek between New London and Oneida creek, *Gray*; Penn Yan, Yates county, *Sartwell* (Paine, Cat. Pl. Oneida Co. 159. 1865). Rare in Monroe county. Six mile creek, Tompkins county, *Dudley*. Watertown, *Wood & Vasey*. Madrid, St Lawrence county, *Mrs O. P. Phelps*.

- 113 *Carex Hitchcockiana* Dewey, Am. Jour. Sci. 10: 274. 1826

Hitchcock's sedge

C. oligocarpa var. *major* Torrey, Fl. N. Y. 2: 206. 1843

In woods and thickets. Infrequent, but widely distributed across the State, outside of the higher Adirondacks and southward to Dutchess county in the Hudson valley.

Watertown, *Crawe*; Auburn, *Carey*; Penn Yan, *Sartwell*; Irondequoit bay, *Sartwell*; south of Rochester, *Dewey* (Paine, Cat. Pl. Oneida Co. 159. 1865). Irondequoit, *Holzer*; Murray, Orleans county, *Baxter*; Newark, Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 120. 1896). Pine Plains, Dutchess county and reported from Westchester county and New York City, *Taylor* (Fl. Vic. N. Y. 200. 1915). Syracuse, *Fairbanks*. Ovid, Seneca county, *Dudley*. Harrisville, Lewis county, *Peck*. Mount Defiance, Essex county, *Peck*. Vaughns, Washington county, *Burnham*.

Griseae

- 114 *Carex conoidea* Schk.; Willd. Sp. Pl. 4: 280. 1805

Field sedge

In meadows. Infrequent or local across the State outside of the Adirondack and Catskill mountains.

Vaughns, Washington county, *Burnham*. Albany, *Peck*. Delmar, Glenmont & Selkirk, Albany county, *House*. New Baltimore, Greene county, *Peck*. Yonkers, *Howe & Pooley*. Bronx county, northward and reported from Woodmere, Long Island, *Taylor* (Fl. Vic. N. Y. 200. 1915). Schenectady and western New York, *Gray*; Yates county, *Sartwell* (Paine, Cat. Pl. Oneida Co. 158. 1865). Troy, *Emmons*. Long pond, Monroe county, *Searing*, *Holzer* (Proc. Rochester Acad. 3: 120. 1896).

- 115 *Carex grisea* Wahl. Kongl. Vet. Acad. Handl. (II) 24: 154.

1803

Gray sedge

C. grisea var. (?) *rigida* Bailey, Torr. Club Mem. 1: 56. 1889

Upper Susquehanna 123. 1898). Apalachin, Tioga county, *Fenno*. North Greenbush, Rensselaer county, *Peck*. Utica, *A. Gray*; *Haberer*. Taberg, Oneida county, *House*. Peterboro and Oneida, Madison county, *House*. Penn Yan, *Sartwell*. Reported as frequent, *Dudley* (Cayuga Flora, as *miliacea*).

119 *Carex formosa* Dewey, Am. Jour. Sci. 8: 98. 1824.

Handsome sedge

Dry woods and thickets. Washington county to Columbia county and westward across the State. Rare or local.

Vaughns, Washington county, *Burnham*. Pine Plains, Dutchess county, *Hoysradt*. Ancram Lead Mines, Columbia county, *Peck*. Rome, *Vasey*. Penn Yan, *Sartwell*. Seneca Park, Rochester, *Peck*; *Baxter* (Proc. Rochester Acad. 5: 31. 1910; N. Y. State Mus. Bul. 94: 38. 1905). Troy, *Emmons*.

120 *Carex Davisii* Schw. & Torr. Ann. Lyc. N. Y. 1: 326. 1825

Davis's sedge

C. Torreyana Dewey, Am. Jour. Sci. 10: 47. 1826

In moist thickets and meadows. Rensselaer and Dutchess counties westward across the State. Rare and local.

Pine Plains, Dutchess county, *Taylor* (Fl. Vic. N. Y. 201. 1915). Greenbush, Rensselaer county, *Peck*. Utica, Whitesboro and Oriskany, *Paine* (Cat. Pl. Oneida Co. 155. 1865). Utica, *Haberer*; *Vasey*.

121 *Carex aestivaliformis* Mackenzie, Torr. Club. Bul. 37: 238.

1910

False summer sedge

C. gracillima x *aestivalis*, ?, Bailey, Torr. Club Bul. 20: 417. 1893

A southern species, perhaps a hybrid as suggested by Bailey. In this State known only from Alcove, Albany county, and in Greene county, *C. L. Shear* (July 5, 1892), and reported by *Taylor* from Yonkers.

122 *Carex aestivalis* M. A. Curtis; A Gray, Am. Jour. Sci. 42: 28.

1842

Summer sedge

On wooded hills. Dutchess county, the Catskill mountains and Otsego county, southward. Infrequent.

Pine Plains, Dutchess county and in the Catskills, *Taylor* (Fl. Vic. N. Y. 202. 1915). Worcester and East Worcester, Otsego county, *Peck*.

Debiles

123 *Carex oblita* Steud. Syn. Pl. Cyp. 231. 1855.

Dark-green sedge

C. glabra Boott, Ill. Car. 93. 1860

C. venusta var. *minor* Boeckl. Linnaea 41: 255. 1877

In low woods and boggy depressions. Reported from Long Island by *Taylor* (1915). Has also been reported from central New York, but unverified.

124 *Carex flexuosa* Muhl.; Willd. Sp. Pl. 4: 297. 1805

Slender-stalked sedge

C. tenuis Rudge, Trans. Linn. Soc. 7: 97. pl. 9. 1804. Not J. F. Gmel. 1791

C. debilis var. *Rudgei* Bailey, Torr. Club Mem. 1: 34. 1889

C. debilis var. *interjecta* Bailey, Torr. Club Bul. 20: 418. 1893

C. debilis var. *strictior* Bailey, Torr. Club Mem. 1: 34. 1889

In woods, thickets and moist openings. Common throughout the Adirondack region (up to 4000 feet altitude Mount Marcy, *House*), the northern and central counties, and somewhat less frequent southward and westward.

Reported by *Paine* (1865) as *C. debilis*. *C. debilis* has been reported several times from this State, but wherever the specimens have been available for verification, they prove to be *C. flexuosa*. Peck collected a specimen in the Adirondacks with perigynia 6 to 7 mm long, which he referred to *C. debilis*, but Mackenzie refers the specimen to *flexuosa*.

125 *Carex arctata* Boott; Hook. Fl. Bor. Am. 2: 227. 1840

Drooping wood sedge

In dry or moist woods and thickets. Common throughout the northern and central parts of the State. Less common southward and in the extreme western section of the State.

126 *Carex Kneiskernii* Dewey, Am. Jour. Sci. 32: 247. 1846

Kneiskern's sedge

Usually regarded as a hybrid between *C. arctata* and *C. castanea*.

Rome and Oriskany, *Kneiskern*, *Vasey*, *Dewey* (*Paine*, Cat. Pl. Oneida Co., 161. 1865). The Vasey collection is in the Sartwell herbarium. Alder Creek, Oneida county, *Haberer*. Newcomb, Essex county, *House*, 1920.

Flexiles

127 *Carex castanea* Wahl. Kongl. Vet. Acad. Handl. (II) 24: 155.

1803

Chestnut sedge

C. flexilis Rudge, Trans. Linn. Soc. 7: 98. pl. 10. 1804

C. blepharaphora A. Gray, Ann. Lyc. N. Y. 3: 237. 1835

In moist or dry thickets, low or wet meadows and depressions, or rarely in bogs. Locally abundant across the northern part of the State, and in central New York.

Southern Herkimer county, and near old Fort Bull on Wood creek, Oneida county, *Kneiskern*, *Vasey* (*Paine*, Cat. Pl. Oneida

Co. 161. 1865). Rome, Gray, and Essex county, *Kuciskern* (Torrey, Fl. N. Y. 2: 410. 1843). West of Rome, *Haberer*. Cedar lake, Herkimer county, *Peck*. Litchfield, *Haberer*. Alder creek, Oneida county, *Haberer*. Peterboro, Madison county, *House*. Vaughns, Washington county, *Burnham*. Minerva, Essex county, *Peck*. Newcomb, Essex county, *House*. Norfolk, St Lawrence county, *Mrs O. P. Phelps*.

Capillares

128 **Carex capillaris** L. Sp. Pl. 977. 1753 Hair-like sedge

A rare arctic-alpine species, found at Otter creek, near Cortland, by *S. N. Cowles* in 1869. *W. R. Dudley*, in 1884 discovered it at another locality, "Marl pond"; about 3 miles from where it was found by Cowles. It occurs also in northern Maine and on the White mountains of New Hampshire.

Longirostres

129 **Carex Sprengelii** Dewey; Spreng. Syst. 3: 827. 1826.

Long-beaked sedge

C. longirostris Torr.; Schw. in Ann. Lyc. N. Y. 1: 71. 1824. Not Krock. 1814

On banks and in moist thickets. Infrequent or local across the State from Essex county to St Lawrence county, south to Dutchess county and westward to Oneida lake and Schuyler county. Perhaps of wider distribution.

Keene, Essex county, *Peck*. Saratoga, Rensselaer and Albany counties, *Peck*. Troy, *Emmons*. Gloversville, *Olsson*. Rossie, St. Lawrence county, *Peck*. Gouverneur, *Phelps*. Pine Plains, Dutchess county, *Hoysradt*. Penn Yan, *Sartwell*. Oneida lake, *Vasey* (*Sartwell's* No. 157). Watkins, Schuyler county, *Dudley* (*Cayuga Flora* 120. 1889). Apalachin, Tioga county, *Fennel*. Sand dunes, in pine woods, along shore Lake Ontario, Woodville, Jefferson county, *House*.

Virescentes

130 **Carex Swanii** (Fernald) Mackenzie, Torr. Club Bul. 37: 246.

1910

Swan's sedge

C. virescens var. *minima* Barratt; Bailey, Torr. Club Mem. 1: 77. 1880

C. virescens var. *Swanii* Fernald, Rhodora 8: 183. 1906

C. virescens Britton & Brown, Illus. Fl. Ed. 1, 1: 316. fig. 743. 1896

In moist thickets, open woods and on banks. Common across the State, but not reported from the higher and northern Adirondacks. In some sections more common than the next.

- 131 *Carex virescens* Muhl.; Willd. Sp. Pl. 4: 251. 1805
Ribbed sedge

C. virescens var. *costata* Dewey, Am. Jour. Sci. 9: 260. 1825

C. costellata Britton, Torr. Club Bul. 22: 223. 1895

In woods and thickets. Common or frequent across the State, but not reported from the northern and higher Adirondack region.

- 132 *Carex hirsutella* Mackenzie, Torr. Club Bul. 50: 349. 1923
Northern hirsute sedge

C. triceps Michx. Fl. Bor. Am. 2: 170. 1803. Not Schrank, 1789

C. hirsuta Willd. Sp. Pl. 4: 252. 1805. Not Suter, 1802

C. triceps var. *hirsuta* Bailey, Torr. Club Mem. 1: 35. 1889

C. complanata Torrey, of New York reports

In woods, fields and swamps. Frequent or common in most sections of the State, but not reported from the northern Adirondacks. Somewhat rare westward, and rare on the coastal plain of Long Island. A form with oblong, dense spikes is described as *C. complanata* var. *robusta* (Burnham, Torrey 19: 134. 1919).

- 133 *Carex caroliniana* Schw. Ann. Lyc. N. Y. 1: 67. 1824
Carolina sedge

C. triceps var. *Smithii* Bailey, Bot. Gaz. 13: 88. 1888

A southern species, reported as having been doubtfully collected at Aqueduct, Long Island (Taylor, Fl. Vic. N. Y. 203. 1915).

- 134 *Carex Bushii* Mackenzie, Torr. Club Bul. 37: 241. 1910
Bush's sedge

C. hirsuta var. *cuspidata* Dewey; Wood's Classbook 758. 1863

In meadows. Eastern and central parts of the State, southward. Rare.

Near Utica, Oneida county, *Habercr*, 1902. Yonkers (according to Taylor, l.c. 204). Washington county, *Burnham*. Penn Yan, *Sartwell*.

Pallescentes

- 135 *Carex pallescens* L. Sp. Pl. 977. 1753
Pale sedge

In fields and meadows. Common or frequent throughout the State. Less common in the western part of the State and rare on Long Island.

Anomala

- 136 *Carex scabrata* Schw. Ann. Lyc. N. Y. 1: 64. 1824
Rough sedge

In moist woods, swamps, marshes and thickets. Common throughout the northern, central and eastern sections of the State.

Less frequent westward and uncommon or rare on Long Island. Not reported from Staten Island.

Limosae

- 137 **Carex limosa** L. Sp. Pl. 977. 1753 Mud sedge

In bogs and marshes. Frequent across the northern part of the State and in central New York. Less common or rare southward to Dutchess and Broome counties and westward.

- 138 **Carex paupercula** Michx. Fl. Bor. Am. 2: 172. 1803 Bog sedge

C. irrigua Smith; Hoppe, Caric. 72. 1825

C. paupercula var. *irrigua* Fernald, Rhodora 8: 76, 77. 1906

C. magellanica of New York reports, perhaps also of Lamarck (see Holm, Can. Field Nat. 33: 75. 1919)

In bogs and cold wooded swamps. Frequent throughout the northern and central portions of the State, south to Dutchess, Otsego, Tompkins and Wayne counties. In the Adirondacks found to the summits of Marcy and Whiteface.

Var. **pallens** Fernald, Rhodora 8: 77. 1906, with about the same range but southward only to Rensselaer, Herkimer and Madison counties, is more usually found in cold mossy woods and shaded swamps, and except for its paler color is not distinct.

- 139 **Carex Barrattii** Schw. & Torr. Ann. Lyc. N. Y. 1: 361. 1825 Barratt's sedge

C. littoralis Schw., l.c. 1: 70. 1824. Not Krock. 1814

In wet woods and bogs near the coast. Islip, Long Island, Peck. Islip & Woodmere, Taylor (Fl. Vic. N. Y. 205. 1915).

Atratae

- 140 **Carex Buxbaumii** Wahl. Kongl. Vet. Acad. Handl. (II) 24: 163. 1803 Brown sedge

C. polygama Schk. Reidgr. 1: 84. 1801. Not J. F. Gmel. 1791

C. canescens Boott; Hook. Fl. Bor. Am. 2: 215. 1840. Not L.

C. fusca Bailey, Torr. Club Mem. 1: 63. 1889. Not All. 1785.

In bogs and marshes, or on marshy shores of lakes and ponds. Infrequent across the State northward, south to Dutchess county and locally on Long Island, westward to Seneca and Genesee counties.

Near Albany, Peck. Karner, Albany county, Gordinier. Lake Sanford, Essex county, Peck. Lake Harris, Essex county, House. Pompey, Onondaga county, House. Junius, Seneca county, Sartwell.

Mendon, Monroe county, *House*. Banks of Genesee river, *Bradley*; Bergen swamp, Genesee county, *Paine* (Cat. Pl. Oneida Co. 155. 1865).

Rigidæ

141 *Carex stricta* Lam. Encycl. 3: 387. 1789 Tussock sedge
In swales, marshes and low meadows, chiefly near the Atlantic coast.

Islip, Long Island, *Peck*. Manorville, *House*. Staten Island, *Britton*. Prattsburg, Steuben county, *S. H. Wright*. Philipstown, Putnam county, *Barratt*.

Forma *brevior* House, and forma *pedicellaris* House (N. Y. State Mus. Bul. 243-244: 61. 1923), are described from Long Island.

142 *Carex strictior* Dewey; Wood's Classbook 582. 1845
Northern tussock sedge
C. Watsoniana Steud. Syn. Pl. Cyp. 215. 1855

In marshes, meadows and swamps. Common throughout most sections of the State north of the coastal plain. Passing into forma *angustata* (Boott) House, l.c. 60 (var. *angustata* (Boott) Bailey; *Carex xerocarpa* S. H. Wright).

A form which grows at Hidden lake, Herkimer county, and elsewhere, with very short pistillate spikes is forma *curtissima* (Peck) House, l.c. 60 (*C. stricta* var. *curtissima* Peck, Howe, in 48th Rep't N. Y. State Mus. 150. 1895). The true *Carex stricta*, on the coastal plain has a similar variety, and material of it collected by Peck at Islip was designated as this variety. The Hidden lake collection seems to be the type, as the Islip, Long Island, collection was made by Peck on May 25, 1895, at which time the 48th Rep't (for 1894) was in press.

143 *Carex Haydeni* Dewey, Am. Jour. Sci. (II) 18: 103. 1845
Hayden's sedge

C. aperta Carey, in A. Gray, Man. 547. 1848. Not Boott.

C. aperta var. *minor* Olney, Exsicc. V. No. 15. 1871

C. stricta var. *decora* Bailey, Bot. Gaz. 13: 85. 1888

In swamps. Northern part of the State. Rare.

Ausable valley and south meadows, North Elba, Essex county, *Peck* (N. Y. State Mus. Bul. 28: 141. 1899).

144 *Carex torta* Boott; Tuckerman, Eumn. Meth. 11. 1853.
Twisted sedge

Rocky beds of streams and rarely in swamps or marshy meadows. Infrequent across the State outside of the Adirondacks, in the east, north to Washington county, west of the mountains north to St Lawrence county, southward in the Hudson valley to Dutchess, Ulster and Greene counties.

- 145 **Carex concolor** R. Br. in Parry's Voy. App. 283. 1823
Bigelow's sedge
C. rigida Gooden. Trans. Linn. Soc. 2: 193. *pl.* 22. 1794. Not Schrank, 1789
C. hyperborea Drej. Rev. Crit. Car. 43. 1841
C. Bigelowii Torrey; Schw., Ann. Lyc. N. Y. 1: 67. 1824

An arctic-alpine species found in this State only on or near the summits of Mount Marcy, Mount McIntyre, Wallface, and Whiteface.

- 146 **Carex acuta** L. Sp. Pl. 978. 1753 Goodenough's sedge
C. caespitosa Gooden. Trans. Linn. Soc. 2: 105. *pl.* 21. 1794. Torr. Fl. N. Y. 2: 388. 1943. Not L., 1753
C. Goodenowii J. Gay, Ann. Sci. Nat. (II) 11: 191, 1839 (See Mackenzie, Torr. Club Bul. 50: 345. 1923)
C. vulgaris E. Fries, Mant. 3: 153. 1842
C. vulgaris var. *strictiformis* Bailey, Torr. Club Mem. 1: 74. 1889

In swales and marshes. A northern species which has been recorded (as indicated below) for this State, but not verified.

Pine Plains, Dutchess county and on Mount Riga, *Taylor* (Fl. Vic. N. Y. 205. 1915). Swamp near Oriskany, Oneida county, *Kneiskern* (Paine, Cat. Pl. Oneida Co. 154. 1865). Wayne and Monroe counties (Proc. Rochester Acad. 3: 118. 1896).

- 147 **Carex lenticularis** Michx. Fl. Bor. Am. 2: 172. 1803.
Lenticular sedge
C. lenticularis var. *merens* E. C. Howe, 48th Rep't N. Y. State Mus. 149. 1895

Wet, marshy or boggy shores of lakes and ponds, across the northern part of the State and in the Adirondacks.

Clear lake, Round lake and Lake Placid, Essex county, *Peck* (N. Y. State Mus. Bul. 28: 141. 1899). Lake Harris, Essex county, *House*. Shore of "the Eight lakes" Herkimer county, *Paine*. Island in Lake Sanford near McIntyre Iron Works, Essex county, *Paine*. Hewitt's pond, Essex county, *House*. Lake Pleasant, Hamilton county, *House*. Racquette river at Colton, St Lawrence county, *Mrs O. P. Phelps*. Pine Plains, Dutchess county, *Taylor* (Fl. Vic. N. Y. 206. 1915)

Var. **Blakei** Dewey, on the sandy shores of Fourth lake, Herkimer county, *Paine*.

- 148 **Carex substricta** (Kukenthal) Mackenzie, in Rydb. Rocky Mountain Fl. 139. 1917 Northern water sedge
C. aquatilis substricta Kukenthal, Pflaurenreich IV²⁰: 309. 1909
C. aquatilis of N. Y. reports. Not Wahl.

In swamps, bogs and along lake shores. Frequent from Herkimer county northward and westward. Less common or rare eastward to the Hudson valley and Dutchess county.

State marsh, Herkimer county, *House*. Hidden lake and Litchfield, Herkimer county, *Peck*. Peterboro, Madison county, *House*. Jamesville, Onondaga county, *House*. Bonaparte swamp, Lewis county, *House*. Pecksport, Madison county, *House*. Junius, Seneca county, *Sartwell*. Pompey, Onondaga county, *House*. Round pond, Monroe county, *House*. Niagara river, *Boott*. Tompkins county, *Dudley* (Cayuga Flora 113. 1889). Woodville, Jefferson county, *House*.

- 149 **Carex Emoryi** Dewey; Torrey, Bot. Mex. Bound. 230. 1859
Emory's sedge

A southern species, reported from Sullivan county by *Taylor* (Fl. Vic. N. Y. 206. 1915).

Cryptocarpae

- 150 **Carex crinita** Lam. Encyl. 3: 393. 1789 Sickie sedge

In swamps and wet woods. Common throughout most sections of the State, but rare or absent in the pine-barrens of Long Island.

The var. **minor** Boott (Ill. 1: 18. 1858), represented in the state herbarium by collections from Yates, Oneida and Hamilton counties.

- 151 **Carex gynandra** Schw. Ann. Lyc. N. Y. 1: 70. 1824
Nodding sedge

In swamps and wet woods. Common except on the coastal plain of Long Island. Variable in the character of the pistillate spikes, and width of leaves. Var. **Porteri** (Olney) Britton, and Var. **simulans** (Fernald) Haberer, being the most marked forms.

A hybrid between *C. crinita* and *C. gynandra*, has been collected at Mud lake, Hannibal, Oswego county, *House*.

Hirtae

- 152 **Carex lacustris** Willd. Sp. Pl. 4: 306. 1805
Lake-bank sedge

C. riparia Muhl. Descr. Gram. 259. 1817. Not Curtis, 1783

In swamps and along shores of streams and ponds. Frequent northward in the State. Less abundant or rare southward along the coast.

Doctor Peck has described a small or dwarfed form found at Karner, Albany county as *C. riparia* var. *inferior*, Peck (49th Rep't N. Y. State Mus. 29. 1896).

- 153 **Carex Walteriana** Bailey, Torr. Club Bul. 20: 429. 1893
Walter's sedge

C. striata Michx. Fl. Bor. Am. 2: 174. 1803. Not Gilib. 1792

C. striata var. *brevis* Bailey, Torr. Club Mem. 1: 34. 1889

In pine-barren swamps on Long Island. Infrequent.

The reference to *C. striata* from western New York and the northern part of the State in Torrey's Flora of New York, and in Paine's Catalogue of the Plants of Oneida County, apparently refers to *Carex Houghtonii*.

154 *Carex vestita* Willd. Sp. Pl. 4: 1805 Velvet sedge

In sandy or rocky woods and thickets, Washington and Saratoga counties, southward and westward to Schenectady county.

155 *Carex lanuginosa* Michx. Fl. Bor. Am. 2: 175. 1803

Woolly sedge

C. pellita Muhl.; Willd. Sp. Pl. 4: 302. 1805

C. filiformis var. *latifolia* Boeckl. Linnaea 41: 309. 1876

C. filiformis var. *lanuginosa* B. S. P., Prel. Cat. N. Y. 63. 1888

In swamps, marshes and wet meadows. Infrequent or locally abundant throughout most sections of the State, but very rare or largely absent in most of the Adirondack region.

156 *Carex lasiocarpa* Ehrh. in Hannov. Mag. 9: 132. 1784

Slender sedge

C. filiformis Gooden. Trans. Linn. Soc. 2: 172. 1794. Not L.

In wet meadows, swamps and marshy shores. Frequent or common throughout the Adirondack region, the northern and central counties of the State. Less common westward to Lake Erie and rare in the southern tier of counties, and southward in the Hudson valley to Dutchess county. Reported from Westchester county and from a few localities on Long Island.

157 *Carex Houghtonii* Torrey, Ann. Lyc. N. Y. 3: 413. 1836

Houghton's sedge

In sandy or rocky soil and on shores. Infrequent or rare across the northern part of the State.

Lake Placid and Elizabethtown, Essex county, *Peck*. North Elba, *Peck*. East Galway, Saratoga county, *E. A. Burt*. Gloversville, Fulton county, *A. Olsson*. Long pond, Monroe county, (*Proc. Rochester Acad.* 3: 118. 1896), but not verified. Newcomb, Essex county, *House*.

158 *Carex trichocarpa* Muhl.; Willd. Sp. Pl. 4: 302. 1805

Hairy-fruited sedge

In marshes and on wet banks and in low meadows. Infrequent or scarce across the State northward. Rare southward to Dutchess and Broome counties, and westward to Lake Erie. Reported southward to Bronx county.

Var. *turbinata* Dewey, Am. Jour. Sci. 11:159. 1826; is reported from Dutchess county.

159 *Carex atherodes* Spreng. Syst. 3: 828. 1826

Awned sedge

C. aristata R. Br. in Frankl. Jour. 751. 1823. Not Clairv. 1811

C. trichocarpa var. *aristata* Bailey, Bot. Gaz. 10: 294. 1885

In bogs. Northern and western parts of the State. Rare.

Watertown, *Crawe*; between Watertown and Adams, *Vasey* (Paine, Cat. Pl. Oneida Co. 164. 1865). Shore of Lake Ontario, *Sartwell* (Torrey, Fl. N. Y. 2: 398, 1843). Greece, Monroe county, *Bradley* (Proc. Rochester Acad. 3: 118. 1896). Utica, *J. A. Paine, Jr.* (in state herbarium, but locality perhaps incorrect as Paine does not report it from Oneida county).

160 *Carex hirta* L. Sp. Pl. 975. 1753 Hairy or hammer sedge

In fields and waste places. Locally naturalized from Europe, at Ithaca, *Dudley*; Boonville, Oneida county, *Haberer*; and on Long Island, *Taylor*.

Flavae

161 *Carex extensa* Gooden. Trans. Linn. Soc. 2: 175. 1794

Long-bracted sedge

Salt marshes near Coney Island. Probably naturalized from Europe, *T. F. Allen*, *G. D. Hulst*, *N. L. Britton*, etc.

162 *Carex viridula* Michx. Fl. Bor. Am. 2: 170. 1803

Green sedge

C. flava var. *viridula* Bailey, Torr. Club Mem. 1: 31. 1889

C. oederi var. *pumila* (Cosson & Germain, Fl. Paris 602. 1845) Fernald, Rhodora 8: 201. 1906

In bogs, on wet or marshy shores and wet rocks. Locally frequent across the State southward to Dutchess and Greene counties and westward to Tompkins and Genesee counties. Perhaps of wider distribution westward in the State.

Shore of Lake Ontario at Sacketts Harbor, *Crawe*; and at Niagara Falls, *Dewey* (Torrey, Fl. N. Y. 2: 403. 1843). Bergen swamp, Genesee county, *Paine* (Cat. Pl. Oneida Co. 156. 1865). Thompson's lake, Albany county, *Peck*. Watertown, *Vasey*. Alexandria Bay, *C. S. Sheldon*. Lake Harris and Hewitt's pond, Essex county, *House*. Syracuse, *Mrs S. M. Rust*. Peterboro, Madison county, *House*. Bergen swamp, *Peck*, *House*. Marl pond outlet, Cortland county, *Peck*. Ludlowville, Tompkins county, *H. B. Lord*. Sodus Point, Wayne county, *Hankenson*. Massena, St Lawrence county, *Mrs O. P. Phelps*.

There appears to be no marked difference between the species and the so-called var. *pumila*, which is an approach to but sufficiently distinct from the Scandinavian *Carex Oederi*, under which name our plant is often reported.

163 **Carex cryptolepis** Mackenzie, Torrey, 14: 157. 1914

Small yellow sedge

C. Oederi Michx. Fl. Bor. Am. 2: 171. 1803. Not Retz.

C. lepidocarpa Dewey, in Wood's Classbook, ed. 2, 585. 1847. Mackenzie in Britton & Brown, Ills. Fl. ed. 2, 1: 430, fig. 1076. 1913. Not Tausch, 1834
C. flava var. *rectirostra* Gaudin; Robinson & Fernald, in A. Gray Man. ed. 7, 245. 1908

In wet, usually calcareous meadows or marshes and on wet shores of ponds and lakes. Northern and central New York.

Warrensburg, Warren county, *Peck*. Cheney and Hewitt's ponds. Essex county, *Peck*. Lake Harris, Essex county, *House*. Outlet of Lake Pleasant, Hamilton county, *House*. Paddy lake, Oswego county, *C. S. Sheldon*. Paradox lake, *Brainerd*. Whitesboro, Oneida county, *Haberer*. Hamilton lake, *Peck*. Woodman's pond, Hamilton, Madison county, *House*. Reported from Mohegan lake, Westchester county, *Leggett*. Sylvia lake, Fowler, St Lawrence county, *Mrs O. P. Phelps*.

164 **Carex irregularis** Schw. Ann. Lyc. N. Y. 1: 66. 1824

C. Oederi var. *prolifera* H. B. Lord, 19th Rep't N. Y. State Mus. 76. 1866

In marly bogs and marly shores of ponds. Rare.

Ludlowville, Tompkins county, *H. B. Lord*. Marl pond outlet, Cortland county, *Peck*. Lake Harris, Essex county, *House*.

165 **Carex flava** L. Sp. Pl. 975. 1753

Yellow sedge

In swamps and wet meadows or bogs. Frequent or common in central New York. Less common elsewhere across the State and southward to Dutchess and Bronx counties. Reported from one locality (Long Beach) on Long Island. Not reported from North Elba by *Peck*, but occasional throughout most sections of the Adirondacks and the northern counties.

Collinsiae

166 **Carex Collinsii** Nutt. Gen. 2: 205. 1818 Collins's sedge

C. subulata Michx. Fl. Bor. Am. 2: 173. 1803. Not Gmel. 1791

C. Michauxii Dewey, Am. Jour. Sci. 10: 273. 1826

In deep cedar swamps and bogs on Long Island and Staten Island. Rare.

Magnolia swamp, *T. F. Allen*, 1864 (Clinton, in 18th Rep't N. Y. State Mus. 205. 1865). Staten Island, *W. H. Leggett* (Torr. Club Bul. 6: 12. 1875), not verified. A note in Torr. Club Bul. 2: 8,

1871, indicates that the reference to Long Island in Gray's Manual, ed. 1, and in Torrey's Flora of New York are mistakes. The note is signed by "S. T. O." (S. T. Olney). Yet Olney's distribution of *Carices*, 1870, contains a specimen labelled "New York, Allen", and Clinton appears to have had some information regarding the definite locality, but the species if it does occur on Long Island, has not since been collected.

167 **Carex abacta** Bailey, Torr. Club Bul. 20: 427. 1893
Michaux's sedge

C. rostrata Michx. Fl. Bor. Am. 2: 173. 1803. Not Stokes, 1787
C. Michauxiana Boeckl. Linnaea 40: 336. 1877. Not *C. Michauxii* Schw., 1824

In bogs and on borders of lakes and ponds. Frequent throughout the Adirondack region and the northern counties.

Adirondack mountains, *Peck*. Lake Harris, Lake Tear, Hewitt's pond and Woodruff pond, Newcomb, Essex county, *House*. Lake Pleasant, Hamilton county, *House*. Tooley pond, Clare, St Lawrence county, *Mrs O. P. Phelps*. Long lake, Oneida county, *House*. Pond near Bald mountain, Herkimer county, *J. A. Paine, Jr.* Near Wilmurt, Herkimer county, *Haberer*. Pecksport, Madison county, *House*.

Folliculatae

168 **Carex folliculata** L. Sp. Pl. 978. 1753 Long sedge

In wet woods, meadows and swamps and shores of lakes and ponds. Common on the coastal plain of Long Island and locally northward. Common throughout the Adirondack region, the northern and central counties, and westward to Lake Erie. Not recorded by Clute, however, from the region of the upper Susquehanna. Specimens which are very much dwarfed occur on the shores of Adirondack lakes between 1500 and 2500 feet altitude.

Physocarpae

169 **Carex vesicaria** L. Sp. Pl. 979. 1753 Inflated sedge

C. monile Tuckerm. Enum. Meth. 20. 1843
C. vesicaria vars. *monile* and *jejuna* Fernald, Rhodora 2: 53. 1901
C. bullata var. *cylindracea* Dewey; Torr. Fl. N. Y. 2: 390. 1843
C. Vaseyi Dewey, Am. Jour. Sci. (II) 29: 347. 1860

In marshes and wet meadows. Common across the northern part of the State. Infrequent, local or rare southward to Dutchess and Delaware counties and westward across the State.

170 **Carex rostrata** Stokes; With. Arr. Br. Pl. 2: 1059. 1787
Beaked sedge

? *C. inflata* Huds. Fl. Angl. ed. 2, 412. 1778
C. utriculata Boott; Hook. Fl. Bor. Am. 2: 221. 1840
C. ampullacea Paine, Cat. Pl. Oneida Co. 164. 1865
C. utriculata var. *minor* Boott, Ill. Car. 1: 14. 1858

In marshes, bogs and on marshy shores. Common across the northern part of the State and throughout the Adirondack region. Less frequent southward to Long Island and westward to Lake Erie.

171 **Carex bullata** Schk.; Willd. Sp. Pl. 4: 309. 1805

Button sedge

C. Olneyi Boott, Ill. Car. 1: 15. t. 42. 1858

C. Greenei Boeckl. Flora 41: 649. 1858

In swamps along the coastal plain of Long Island. Rare.

Carex bullata as reported by Paine (Cat. Pl. Oneida Co. p. 164), refers to *C. Tuckermanni*.

172 **Carex Tuckermanni** Dewey, Am. Jour. Sci. 49: 48. t. Ff. fig. 117. 1845 Tuckerman's sedge

C. cylindrica Tuckerm.; Torr. Fl. N. Y. 2: 391. 1843; Carey, in Gray's Man. 566. 1848. Not Schw.

In bogs and wet meadows. Locally abundant across the State outside of the Adirondack mountains, southward to Dutchess, Westchester and Greene counties, and westward to Lake Erie.

173 **Carex retrorsa** Schw. Ann. Lyc. N. Y. 1: 71. 1824

Retrorse sedge

C. Hartii Dewey, Am. Jour. Sci. (II) 41: 226. 1866

C. Hartii var. *Bradleyi* Dewey, l. c.

C. retrorsa var. *Hartii* A. Gray, Man. ed. 5, 600. 1867

In swamps and wet meadows. Frequent across the northern part of the State, in the central counties and westward to Lake Erie. Less common southward to Dutchess and Greene counties and in the Susquehanna river region and the counties bordering on Pennsylvania.

174 **Carex oligosperma** Michx. Fl. Bor. Am. 2: 174. 1803

Few-seeded sedge

C. Oakesiana Dewey, Am. Jour. Sci. 14: 351. 1828

C. Despreauxii Steud. Syn. Pl. Cyp. 237. 1855

In bogs and marshes. Frequent throughout the Adirondack region and the northern counties. Rare or local southward to Albany county and westward to Oneida lake.

175 **Carex lurida** Wahl. Kongl. Acad. Handl. (II) 24: 153. 1803

Sallow sedge

C. tentaculata Muhl.; Willd. Sp. Pl. 4: 266. 1805

In swamps, marshes and wet meadows. Common throughout the State. Somewhat variable.

The var. **parvula** (Paine) Bailey, Torr. Club Bul. 20: 418. 1893 (*C. tentaculata* var. *parvula* Paine, Cat. 105. 1865), is a dwarfed or starved form, occasionally met with.

Var. **flacida** Bailey, Torr. Club Mem. 1: 73. 1889; is infrequent.

Var. **exundans** Bailey; Britton & Brown, Illus. Fl. 1: 299. 1896; occurs at Montauk Point, *Peck*; Barton, Tioga county, *Fenno*, and doubtless elsewhere.

176 **Carex Baileyi** Britton, Torr. Club Bul. 22: 220. 1895

Bailey's sedge

C. tentaculata var. *gracilis* Boott, Ill. Car. 94. 1860

C. lurida var. *gracilis* Bailey, Torr. Club Mem. 1: 11. 1889

In wet or marshy places, rarely in swamps or bogs. Common throughout the entire Adirondack region and the northern counties, southward to Washington, Saratoga, Greene and Herkimer counties. Also at Campville, Tioga county, *Fenno*; and doubtless of wider distribution in the highlands of the State.

Pseudo-Cyperae

177 **Carex Schweinitzii** Dewey; Schw. Ann. Lyc. N. Y. 1: 71. 1824

Schweinitz's sedge

In swamps, marshy meadows and bogs. Frequent in central New York, especially in Herkimer and Oneida counties, and less common across the State to Lake Erie, and eastward to Rensselaer and Dutchess counties. Not reported from the Adirondacks.

178 **Carex hystricina** Muhl.; Willd. Sp. Pl. 4: 292. 1805

Porcupine sedge

C. Cooleyi Dewey, Am. Jour. Sci. 48: 144. 1845

C. tentaculata var. *gracilis* Boott, Ill. Car. 94. 1860

C. hystricina var. *Cooleyi* Dewey; Gray, Man. ed. 7, 251. 1908

In swamps, marshes and low or wet meadows. Frequent or common throughout the State.

179 **Carex pseudocyperus** L. Sp. Pl. 978. 1753

Cyperus-like sedge

In bogs and marshes. Infrequent across the State. Not reported from the Adirondacks.

Bergen swamp, Genesee county, *Peck*. Oswego, *C. S. Sheldon*. Utica, *A. Gray*. Penn Yan, Yates county, *Sartwell*. Pine Plains, Dutchess county, *Hoysradt*. Reported from Chemung and Broome counties, and as frequent in the western part of the State, but many of the collections referred to this may belong to the next and more common species.

180 **Carex comosa** Boott; Trans. Linn. Soc. 20: 17. 1846
Bristly sedge

C. furcata Ell. Bot. S. C. & Ga. 2: 552. 1824. Not Lapeyr. 1813

C. pseudocyperus var. *comosa* Boott, Ill. Car. 4: 141. 1867.

In swamps and marshes and along the borders of ponds. Frequent or common throughout most sections of the State, but less common on Long Island and not reported from Staten Island. A hybrid between *C. comosa* and *C. retrorsa* has been collected at Mendon, Monroe county by M. S. Baxter. Dudley (Cayuga Flora, 118) reports a hybrid between *C. comosa* and *C. lurida*, and also what he considers a hybrid between *C. pseudocyperus* and *C. hystricina*. It is evident and there are a number of hybrid forms in the sections *Pseudocyperaceae* and *Lupulinac*, some of which are but little known.

Squarrosae

181 **Carex squarrosa** L. Sp. Pl. 973. 1753 Squarrose sedge

In swamps and bogs. Local but widely distributed across the State from Rensselaer county westward and southward.

Sandlake, Rensselaer county, House. Albany, Emmons. Sauger-ties, House. Orange county, Holzer. Caledonia, Livingston county, Baxter. Monroe county, Holzer; Golah, Vollertson (Proc. Rochester Acad. 5: 80. 1917). Scattered and rare on the coastal plain, Taylor (Fl. Vic. N. Y. 211. 1915).

182 **Carex typhina** Michx. Fl. Bor. Am. 2: 169. 1803
Cat-tail sedge

C. typhinoides Schw. Ann. Lyc. N. Y. 1: 66. 1824

C. squarrosa var. *typhinoides* Dewey, Am. Jour. Sci. 11: 316. 1826

In swamps and low meadows, chiefly across the southern part of the State. Rare.

Long Island and Staten Island and up the Hudson valley to the highlands, Taylor (l.c.). Narrowsburg, Sullivan county, Peck. Apalachin, Tioga county, Fenno. Bath, Steuben county, Sartwell. Oriskany, Oneida county, Habercr. Oriskany, Kneiskern (in Sartwell herbarium).

183 **Carex Frankii** Kunth, Enum. 2: 498. 1837 Frank's sedge
C. stenolepis Torr. Ann. Lyc. N. Y. 3: 420. 1836. Not Less. 1831

In a small marshy depression east of Oneida, in Oneida county, House, September 1, 1918 (det. Mackenzie). This is a marked extension of the range of this species which is usually given as eastern Pennsylvania, westward and southward.

Lupulinae

- 184 **Carex intumescens** Rudge, Trans. Linn. Soc. 7: 97. *pl. 9. fig. 3.*
1803 Bladder sedge

C. folliculata Wahl. Kongl. Acad. Handl. (II) 24: 152. 1803. Not L. 1753

In swamps, bogs, wet woods and marshy depressions. Common throughout the State.

Var. **Fernaldii** Bailey, Torr. Club Bul. 20: 418. 1893, appears to be the commoner form of this species in the Adirondack region and various localities chiefly in the northern part of the State. Mt Marcy, 4900 ft. alt., *House*, N. Elba, *Peck*, Sterling Valley, Cayuga Co., *Sheldon*, etc.

- 185 **Carex Asa-grayi** Bailey, Torr. Club Bul. 20: 427. 1893
Asa Gray's sedge

C. intumescens var. *globularis* A. Gray, Ann. Lyc. N. Y. 3: 236. 1834

C. Grayi Carey, Am. Jour. Sci. (II) 4: 22. 1847. Not *C. Grayana* Dewey, 1834

In swamps, wet meadows and low woods. Infrequent or locally abundant across the State south of the Adirondacks, south to Staten Island. A var. **hispidula** (A. Gray) Bailey, is described, which occurs at Utica, in Greene county and probably elsewhere.

- 186 **Carex lupulina** Muhl.; Sp. Pl. 4: 266. 1805
Hop sedge

C. bellavilla Dewey, Am. Jour. Sci. (II) 41: 229. 1866

In swamps and ditches, or in wet meadows. Common throughout the State, but rare in the pine-barrens of Long Island. The var. **pedunculata** Dewey, may be an abnormal form or possibly a hybrid with some other species. Collected at South Ballston, Saratoga county, by *Peck*, and reported from other localities. *Carex mirata* Dewey (Greece, Monroe county, *Bradley* 1829, in Sartwell herbarium) is another abnormal form of this species.

- 187 **Carex Macounii** Dewey, Am. Jour. Sci. (II) 41: 228. 1866
Macoun's sedge

C. tentaculata var. *rostrata* Sartwell, Exsicc. No. 138. 1848

C. tentaculata var. *altior* Boott, Ill. 94. t. 278. 1860

C. lurida x *lupulina* Bailey, Torr. Club Mem. 1: 73. 1889

There is little doubt but that the collections here designated are of hybrid origin, chiefly between *C. lurida* and *C. lupulina*, although *C. lupuliformis* Sartwell may rarely be also involved. Some of the collections are sterile or partially so, others are apparently fertile. They are rather uniform in character, and widely distributed, so that

they may well be grouped under the name which Dewey first gave to one of them.

South Ballston, Saratoga county, *Peck*. Meadowdale, Albany county, *Peck*. Machias, Cattaraugus county, *Fenno*. Sylvan Beach, Oneida county, *Peck*. Barton, Tioga county, *Fenno*. Ludlowville, Tompkins county, *H. B. Lord*. Penn Yan, Yates county, *Sartwell*.

Dudley (Cayuga Flora 119), describes at considerable length, hybrids which he refers to *C. lupulina* x *retrosa*. Some of the material is doubtless of that hybrid origin, but some of the material is apparently *C. Macounii* as here treated.

188 *Carex lupuliformis* Sartwell; Dewey, Am. Jour. Sci. (11) 9: 29. 1850 Hop-like sedge

C. lupulina var. *polystachya* Schw. & Torr. Ann. Lyc. N. Y. 1: 337. 1825

In swamps near Penn Yan, Yates county, *Sartwell* (Car. Am. Sept. 147).

In Torrey's Flora of New York; Hoysradt's Flora of Pine Plains, Dutchess county, Taylor's Flora of the Vicinity of New York and other local floras of New York, this species is given an indicated range from Rensselaer county south to Westchester county westward to Monroe county. I have not been able to verify any of these records. Most of the material so labelled proves to be large forms of *C. lupulina* or *C. Macounii*.

Family 12 **ARACEAE** Necker, Act. Acad. Theod.

Palat. 2: 462. 1770

Arum family

ARISAEMA Mart. Flora 14: 459. 1831

1 *Arisaema triphyllum* (L.) Torrey, Fl. N. Y. 2: 239. 1843

Jack-in-the-pulpit, Indian turnip

Arum triphyllum L. Sp. Pl. 965. 1753

Arisaema atrorubens (Ait.) Blume, Rumphia 1: 97. 1835

In moist woods and thickets. Common. Reported by Taylor as rare south of the moraine on Long Island.

2 *Arisaema pusillum* (Peck) Nash, in Britton, Man. 229. 1901

Peck's Jack-in-the-pulpit

A. triphyllum var. *pusillum* Peck, 51st Rep't N. Y. State Mus. 297. 1898

In bogs and low woods. Dutchess county southward. Rare.

Millbrook, Dutchess county, *Fred Thorne* (Peck, l.c.). Westchester county and increasing southward, *Taylor* (Fl. Vic. N. Y. 213. 1915; *Peck*, N. Y. State Mus. Bul. 67: 20. 1903).

3 **Arisaema Stewardsoni** Britton, Man. ed. 2, 1057. 1905
Stewardson's Jack-in-the-pulpit

A. triphyllum var. *Stewardsoni* G. T. Stevens, Illus. Guide Fl. Pl. 110. 1910

In wet woods, often in shaded sphagnum swamps. Local.

Lake Bonaparte, Lewis county, *Peck* (N. Y. State Mus. Bul. 94: 20. 1905). Jordanville, Herkimer county, *House*. Swamps east of Clayville, Oneida county, *House*. Swamps north of New London, Oneida county, *House*.

MURICAUDA Small, Fl. SE. U. S. 227. 1903

Muricauda Dracontium (L.) Small, l.c.

Green dragon, dragon root

Arum Dracontium L. Sp. Pl. 964. 1753

Arisaema Dracontium Schott, Melet, 1: 17. 1832

In wet woods and along streams. Infrequent across the State chiefly south of the Adirondack region. Not recorded from the higher Adirondack region, nor from Long Island, and rare on Staten Island.

PELTANDRA Raf. Jour. Phys. 89: 103. 1819

Peltandra virginica (L.) Kunth, Enum. 3: 43. 1841

Green water arum

Arum virginicum L. Sp. Pl. 966. 1753

Peltandra undulata Raf., l. c.

Leontia virginica Torrey, Fl. N. & Mid. U. S. 1: 358. 1824

Rensselaeria virginica Beck, Bot. 382. 1833

In swamps, borders of lakes, ponds and quiet streams. Frequent or common in most sections of the State, but not reported from the northern Adirondack region, very rare in St Lawrence county, *Mrs O. P. Phelps*, and uncommon in the southern tier of counties bordering on Pennsylvania. Variable in leaf form (Blake, *Rhodora* 14: 102. 1912).

Of the forms described by Blake, the following are known to occur in New York, viz; f. **latifolia** (Raf.) Blake; f. **hastifolia** Blake; f. **brachyota** Blake; and f. **heterophylla** (Raf.) Blake.

CALLA L. Sp. Pl. 968. 1753

Calla palustris L., l.c.

Water arum, wild calla

In bogs and marshes. Common across the State northward, and in the Adirondacks. Less frequent or rare southward to Orange and Westchester counties, to the upper portion of the Susquehanna and Chenango watersheds, the Finger lakes region and westward to Erie county.

SPATHYEMA Raf. Med. Repos. (II), 5: 352. 1808

Symplocarpus Salisb.; Nutt. Gen. 1: 105. 1818

Spathyema foetida (L.) Raf., l.c. Skunk cabbage

Dracontium foetidum L. Sp. Pl. 967. 1753

Pothos putorii Barton, Phila. Med. & Phys. Jour. 3: Suppl. 1, 90. 1806

Symplocarpus foetidus Nutt., l.c. 106

In swamps, marshes and wet woods. Common throughout the State except certain portions of the northern Adirondacks, and very rare in the northern tier of counties.

ORONTIUM L. Sp. Pl. 324. 1753

Aronia Mitch.; Baill. Hist. des Pl. 13: 508. 1895

Orontium aquaticum L., l.c. Golden club

A. aquatica Baill., l.c.

In swamps, ponds and quiet streams. Fulton and Greene counties southward and westward to Otsego, Chenango and Broome counties.

Broadalbin, Fulton county, *J. D. Greenslete* (state herbarium). Coxsackie, Greene county, *Charlotte Bogardus*. Gilbertsville, Otsego county, *H. Lathrop* (Paine, Cat. Pl. Oneida Co. 131. 1865). Chenango county, *Coville*; and Broome county, *Clute* (Fl. Upper Susquehanna 116. 1898). Highland lake, Sullivan county, *Peck*. Spruce pond, Orange county, *Peck*. Recorded from Onondaga county, by Mrs Goodrich (Pl. Onon. Co. 58), upon the authority of S. Cole (*S. Cowles*), and unverified. Hudson, *Eaton* (Man. Ed. 2, 369. 1822).

ACORUS L. Sp. Pl. 324. 1753

Acorus Calamus L., l.c. Sweet flag, calamus or flag root

A. odoratus Lam. Fl. Fr. 3: 299. 1778

A. aromaticus Gilib. Exerc. Phyt. 2: 205. 1792

Calamus aromaticus Guldenst. It. 2: 327. 1791

In marshes, swamps, along streams and in wet meadows. Frequent or common across the State south of the Adirondacks.

Family 13 **LEMNACEAE** Dumort. Fl. Belg. 147. 1827

Duckweed family

SPIRODELA Schleid. Linnaea 13: 391. 1839

Spirodela polyrhiza (L.) Schleid., l.c. 392. Greater duckweed

Lemna polyrhiza L. Sp. Pl. 970. 1753

In rivers, ponds and shallow lakes. Of wide distribution across the State, but apparently absent from the Adirondack region.

Pine Plains, Dutchess county, *Hoysradt*. Common in Monroe county (Proc. Rochester Acad. 3: 113. 1896). Canton, St Lawrence county, *Mrs O. P. Phelps*.

LEMNA L. Sp. Pl. 970. 1753

- 1 **Lemna trisulca** L., l.c. Ivy-leaved duckweed, star duckweed

In ditches, springs, pools, shallow lakes and sloughs, widely distributed across the State. Rare or absent from the Adirondacks. Canton, St Lawrence county, *Mrs O. P. Phelps*. Frequent in central New York and along the south shore of Lake Ontario, and in the Finger lakes region.

- 2 **Lemna cyclostasa** (Ell.) Chev. Fl. Paris 2: 256. 1827

Valdivia duckweed

L. minor cyclostasa Ell. Bot. S. C. & Ga. 2: 518. 1824

L. Torreyi Austin, in A. Gray, Man. ed. 5, 479. 1867

L. valdiviana Philippi, Linnaea 33: 239. 1864

In pools and streams. Long Island and Staten Island. Rare.

- 3 **Lemna perpusilla** Torrey, Fl. N. Y. 2: 245. 1843

Minute duckweed

In ponds, streams, springs and lakes. Long Island and Staten Island. Infrequent.

- 4 **Lemna minor** L. Sp. Pl. 970. 1753 Lesser duckweed

In ponds, lakes and stagnant waters. Common throughout the State.

Lemna gibba was reported from Onondaga lake by Pursh, and that report has been copied by Torrey, Paine and others. The species probably does not occur in New York.

BRUNIERA Franch. in Billotia 25. 1864¹

Wolfia Horkel; Bartling, Ord. Nat. Pl. 76. 1830 (*Wolfia* Horkel; Schleid. in Linnaea 13: 389. 1839). Not *Wolfia* Dennst. 1818, nor *Wolfia* Spreng. 1825

Grantia Griff. ex. Voigt, Hort. Suburb. Calc. 692. 1845. Not *Grantia* Boiss. 1845

Horkelia Reichl. ex Bartl. Ord. 76. 1830. Not C. & S. 1827

- 1 **Bruniera columbiana** (Karst.) Nieuwl. Am. Mid. Nat. 3: 42. 1913

Columbian bruniera or wolffia

Wolfia columbiana Karst. Bot. Unters. 1: 103. 1865-67

Grantia columbiana MacM. Met. Minn. 135. 1893

Floating as minute alga-like grains just beneath the surface of water in stagnant ponds, pools and shallow lakes.

South shore of Lake Ontario and in Oneida lake and adjacent waters, east to Albany and Greene counties, south in the Hudson valley to Westchester county. Not reported from north of the

¹ See Britten. Jour. Bot. 34: 271. 1896

Mohawk valley, nor from the southern counties adjacent to Pennsylvania. Its small size renders it very inconspicuous, and it may have a much more general distribution in the State.

- 2 **Bruniera punctata** (Griseb.) Nieuwl., l.c. Dotted bruniera
Wolffia brasiliensis of Reports, not Wedd.
W. punctata Griseb. Fl. Br. West Ind. 512. 1864

Floating on the surface of stagnant waters. Reported in this State only from Irondequoit bay, Monroe county, *Fuller* (Proc. Rochester Acad. 5: 31. 1910).

Family 14 **XYRIDACEAE** Lindl. Nat. Syst. ed. 2, 388. 1836
 Yellow-eyed grass family

XYRIS L. Sp. Pl. 42. 1753

- 1 **Xyris torta** J. E. Smith, in Rees' Cyclop. No. 11. 1819
 Slender yellow-eyed grass
X. flexuosa Muhl. in Chapm. Fl. S. U. S. 500. 1860; Britton & Brown, Illus.
 Fl. ed. 2, 1: 451. f. 1132. 1913
X. bulbosa Kunth, Enum. 4: 11. 1843

In swamps and bogs, mainly near the coast on Long Island and Staten Island and in Westchester county. Infrequent.

- 2 **Xyris caroliniana** Walter, Fl. Car. 69. 1788
 Carolina yellow-eyed grass

X. jupacai Michx. Fl. Bor. Am. 1: 23. 1803
X. anceps Pers. Syn. 1: 56. 1805

In swamps, bogs and moist depressions. Frequent or common on Long Island and Staten Island and in Westchester county. Less frequent, local or rare northward to Rensselaer, Saratoga, Hamilton and Oneida counties.

Pine Plains, Dutchess county, *Hoysradt*. Sandlake, Rensselaer county, *Peck*. Albany county, *Beck*, *Burnham*. Chase lake, Fulton county, *A. Olsson*. Pleasant lake, Hamilton county, *House*. White lake, Oneida county, *Haberer* (Rhodora 7: 95. 1905); *Peck*, 1911.

- 3 **Xyris montana** H. Ries, Torr. Club Bul. 19: 38. 1892
 Northern yellow-eyed grass
X. flexuosa var. *pusilla* A. Gray, Man. ed. 5, 548. 1867

In bogs and boggy or wet sandy shores of ponds and lakes. Frequent throughout the northern part of the State and the Adirondack region.

Southern Hamilton county (Torr. Club Bul. 4: 25. 1873). Third lake, Herkimer county, *Paine* (Cat. Pl. Oneida Co. 146. 1865) as *N. bulbosa*; *Killip*, 1916. White lake, Round lake, Deer pond and beaver meadows near North Wilmurt, Oneida and Herkimer counties, *Haberer* (Rhodora 7: 94. 1905). Long lake, Oneida county, *House*. Cranberry marsh, Sandlake, Rensselaer county, *Peck* (22d Rep't N. Y. State Mus. 103. 1869; N. Y. State Mus. Bul. 94: 35. 1905). Saranac lake, *Peck*. Bellows lake, Fulton county, *A. Olsson*. Tooley pond, Clare, St Lawrence county, *Mrs O. P. Phelps*.

+ **Xyris Congdoni** Small; Britton, Man. ed. 2, 1057. 1905

Congdon's yellow-eyed grass

On boggy shores, often in water. Suffolk county, Long Island, *Taylor* (Fl. Vic. N. Y. 217. 1915).

Family 15 **ERIOCAULACEAE** Lindl. Veg. Kingd. 122. 1847

Pipewort family

ERIOCAULON L. Sp. Pl. 87. 1753

Eriocaulon septangulare Withering, Bot. Arr. Brit. Pl. 784. 1776

Seven-angled pipewort

Nasmythia articulata Huds. Fl. Ang. ed. 2, 415. 1778

E. pellucidum Michx. Fl. Bor. Am. 2: 166. 1803

E. articulatum (Huds.) Morong, Torr. Club Bul. 18: 353. 1891

In still water, or on moist or wet shores. Common across the state northward, south to Long Island, Ulster and Chemung counties, west to Oswego and Onondaga counties. Chautauqua lake, Chautauqua county (*Day*, Pl. Buffalo 81. 1883). Otherwise not recorded from the western part of the State.

Family 16 **COMMELINACEAE** Reichenb., Consp. 57. 1828

Spiderwort family

COMMELINA L. Sp. Pl. 40. 1753

1 **Commelina nudiflora** L., l.c. 41.

Creeping dayflower

Inwood, New York City, *Taylor* (Torreya 10: 81. 1910). Probably adventive from the South.

2 **Commelina communis** L., l.c. 40

Asiatic dayflower

Adventive or naturalized from Asia, in southern New York, and rarely about Albany, Utica, Syracuse, Buffalo, and doubtless elsewhere.

3 **Commelina virginica** L. Sp. Pl. ed. 2, 61. 1762

Virginia dayflower

In moist soil. Southern part of the State. Rare.

Flushing, Long Island, *Torrey* (Fl. N. Y. 2: 332. 1843). Fish-kill, *Peck* (27th Rep't N. Y. State Mus. 113. 1877).**TRADESCANTIA** L. Sp. Pl. 288. 1753**Tradescantia virginica** L., l.c.

Spiderwort, spider lily

In rich soil. Infrequent in the southern part of the State, chiefly on Staten Island. Also reported northward to Albany and Buffalo, probably largely as an escape from cultivation. The forma **albiflora** Britton (Torr. Club Bul. 17: 125. 1890), rare.Family 17 **PONTEDERIACEAE** Dumort. Anal. Fam. 59. 1829

Pickerel weed family

PONTEDERIA L. Sp. Pl. 288. 1753**Umsema** Raf. Med. Repos. (II) 5: 352. 1808 — **Unisema** Raf. Med Bot. 2: 107. 1830**Pontederia cordata** L., l.c.

Pickerel weed

Umsema obtusifolia & *mucronata* Raf. Med. Repos. (II) 5: 352. 1808*Unisema Purshiana*, *media*, *obliquata*, *latifolia*, *acutifolia*, *mucronata*, *heterophylla*, *rotundifolia* Raf. Med. Bot. 2: 107-108. 1830

Borders of ponds and streams. Frequent or common throughout most sections of the State. Rare northward, especially in the higher Adirondacks and northern counties.

U. media Raf., represents our common form. His *U. Purshiana* is the very narrow leaved forma **angustifolia** (Pursh) House, N. Y. State Mus. Bul. 243-244: 62. 1923 (*P. angustifolia*, Pursh). Forma **albiflora** (Raf.) House, l.c. (*U. media* var. *albiflora* Raf., l.c.), is rare. The very broad leaved form is designated as forma **latifolia** (Raf.) House, l.c.**HETERANTHERA** R. & P. Prodr. Fl. Per. 9. 1794**Phrynium** Loebl. 1758-Kuntze, Rev. Gen. Pl. 3: 318. 1908**Leptanthus** Michx. Fl. Bor. Am. 1: 24. pl. 5. 1803**Lunania** Raf. Med. Bot. 2: 106. 1830**Heteranthera reniformis** R. & P., Fl. Per. 1: 43. 1798

Mud plantain

Leptanthus reniformis Michx. Fl. Bor. Am. 1: 24. 1803*L. virginica* Pers. Syn. 1: 56. 1805*Schollera reniformis* Kuntze, Rev. Gen. Pl. 719. 1891

In mud or shallow water. Rare.

Albany, G. W. Clinton. Fishkill Landing, Torrey (Fl. N. Y. 2: 213. 1843). South bay below Hudson, Eaton (Man. Ed. 3, 304. 1822).

ZOSTERELLA Small, in Small & Carter, Fl. Lancaster Co., 68, 319. 1915

Schollera Schreb. Gen. 785. 1791. Not Roth, 1788

Zosterella dubia (Jacq.) Small, l.c. Water star grass

Commelina dubia Jacq. Obs. Bot. 3: 9. pl. 59. 1768

Leptanthus gramineus Michx. Fl. Bor. Am. 1: 25. 1803

Schollera graminea A. Gray, Man. 511. 1848

Heteranthera graminea Vahl, Enum. 2: 45. 1806

H. dubia Macmillan, Met. Minn. 138. 1892

Schollera dubia Kuntze, l.c.

In still water and on muddy or sandy wet shores.

Frequent from Lake Champlain and Lake George southward to Westchester county, westward to the St Lawrence basin, Oneida lake, Lake Ontario and southward, chiefly in the lake region of western New York. Not reported from Long Island and Staten Island.

Family 18 **JUNCACEAE** (Vent.) Dumort. Comm. Bot. 66. 1822

(*Juncaceae* Vent. 1799)

Rush family

JUNCUS L. Sp. Pl. 325. 1753

1 **Juncus inflexus** L., l.c. 326

J. glaucus Ehrh. Beitr. 6: 83. 1780—With. Bot. Arr. Br. Pl. ed. 1, 1: 211. 1776

Forming dense clumps in wet soil along the Willanoa creek between Deansboro and Waterville, Oneida county, House. Appearing as though indigenous.

J. inflexus is of wide distribution throughout the Old World, but appears not to have been previously noted in North America.

2 **Juncus effusus** L., l.c. 326 Common or soft rush

In swamps and moist or wet soil. Very common. Fernald & Wiegand (Rhodora 12: 81-93. 1910), call attention to the fact that the typical form of Europe does not occur in America, but is represented by the following varieties in this State:

Var. **compactus** Lejeune & Courtois, Fl. Belg. 2: 23. 1831

Rather frequent across the State especially north of the Hudson highlands.

Var. **solutus** Fernald & Wiegand, l.c. 90

The common form of the species especially southward in the State and locally northward to the foothills of the Adirondacks, St Lawrence county and westward to Lake Erie.

Var. *Pylaei* (Laharpe) Fernald & Wiegand, l.c. 92

J. Pylaei Laharpe, Mem. Soc. d'Hist. Paris 3: 119. 1827

A rather distinct variety recognized chiefly by the rather rigid perianth, (sepals longer than the petals) which usually exceeds the capsule and contrasts in color with it. Locally frequent throughout the Adirondack mountains and westward to Lake Erie. Doubtless of wider distribution.

Var. *costulatus* Fernald, *Rhodora* 23: 239. 1922, the coastal plain representative of the more northern and common var. *Pylaei*.

Var. *conglomeratus* (L.) Engelm. in Gray's Man. ed. 5, 537. 1867

J. conglomeratus L. Sp. Pl. 326. 1753. in part

J. Leersii Marsson, Fl. Neu Vorpomm. u. Rugen, 451. 1869

Known from Newfoundland to New Jersey, and to be looked for in or near the coastal district of New York.

3 *Juncus filiformis* L. Sp. Pl. 326. 1753 Thread rush

In moist or wet soil, especially along the margins of lakes and ponds, slow streams and even in bogs. Common throughout the Adirondack region. Local or rare southward to Oneida lake and westward to Lake Ontario.

Head of Oneida lake, *Gray*; near Sacketts Harbor, *Gray* (Paine, Cat. Pl. Oneida Co. 144. 1865). Monroe county on shore of Lake Ontario (Proc. Rochester Acad. 3: 111. 1896). Lake Bonaparte, Lewis county, *House*. Canton, St Lawrence county, *Mrs O. P. Phelps*.

4 *Juncus balticus* Willd. (Berlin Mag. 3: 298. 1809), var. *littoralis* Engelm. Trans. St Louis Acad. 2: 442. 1866

Baltic rush

On shores and in marshes. Locally abundant throughout the State.

Common northward especially along the shores and inlets of Lake Ontario and Lake Erie. Rare in the Hudson valley and not common along the coastal sections of southern New York, Long Island and Staten Island. Scattered or local throughout the Finger lakes region of western New York and in the swamps and valleys of the southern tier of counties. The form with lax inflorescence common along the Great Lakes is f. *dissitiflorus* Engelm.; Fernald & Wiegand (*Rhodora* 25: 208. 1923).

5 *Juncus maritimus* Lam. Encycl. 3: 264. 1789 Seaside rush

Known only from Coney Island, *Peck*, *Britton*, *Hulst*, etc. (Torr. Club Bul. 4: 24. 1873 — 4: 40. 1873 — 7: 18. 1880 — 22d Rep't N. Y. State Mus. 54. 1869 — *Torrey* 10: 18. 1910).

6 **Juncus bufonius** L. Sp. Pl. 328. 1753 Toad rush
 Borders of streams, lakes and ponds; roadsides and dried up pools.
 Common.

Var. **halophilus** Buchenau & Fernald, Rhodora 6: 39. 1904

Long Beach, Long Island, *House*. Fulton, Oswego county. *Sheldon*; and doubtless elsewhere along the seacoast and about brackish marshes in the interior.

7 **Juncus trifidus** L. Sp. Pl. 326. 1753 Highland rush
 Mountains of Ulster county, and on the higher Adirondack summits. Rare.

Mount Marcy, *Torrey* (Fl. N. Y. 2: 331. 1843). Wallface Marcy and Whiteface, *Peck* (54th Rep't N. Y. State Mus. 161. 1901). Sam's point, Ulster county, *Austin* (Torr. Club Bul. 4: 24. 1873); Britton (l.c. 11: 20. 1884). Lake Mohonk, *Peck*.

The Ulster county form has been placed in the var. **monanthos** (Jacq.) Bluff & Fingerhuth. Consp. Fl. Germ. 1: 440. 1825 (*J. monanthus* Jacq. Enum. Stirp. Windob. 61, 236. 1762).

8 **Juncus Gerardi** Lois. Jour. de Bot. 2: 284. 1809 Black grass

J. bulbosus Ehrh. Beitr. 6: 81. Not L.

J. attenuatus Viv. Fl. Cors. Sp. Nov. 5

J. atrofuscus Rupr. Beitr. Pfl. Russl. 2: 59

Common on the salt marshes and brackish meadows along the coast of Long Island, Staten Island, the Long Island Sound shores of Bronx and Westchester counties and inland at Onondaga lake, Clinton. (Paine, Cat. Pl. Oneida Co. 145. 1865), *Sheldon*. Griegsville, Wyoming county, *Baxter*.

9 **Juncus Dudleyi** Wiegand, Torr. Club Bul. 27: 524. 1900
 Dudley's rush

In damp marl or more rarely in damp sandy soil.

Locally abundant from Fulton county west and north to St Lawrence county and Lake Erie. Also on Long Island and Staten Island.

Potsdam, *Mrs O. P. Phelps*. Bonaparte lake, Lewis county, *House*. Woodville, Jefferson county, *House*. Sylvan Beach, Oneida county, *House*. Oneida, Madison county, *House*. Bergen swamp, Genesee county, *House*. Ithaca, *Dudley*. Truxton, *Wiegand*. Marl creek, Cortland county, *Peck*. Gloversville, Fulton county, *Olsson*. Amagansett, Long Island, *Peck*. Clove lake, Staten Island, *Taylor* (Fl. Vic. N. Y. 224. 1915).

10 **Juncus tenuis** Willd. Sp. Pl. 2: 214. 1799 Slender yard rush

J. aristatus Link, Enum. Hort. Berol. 1: 306

J. monostichus Bartlett, Rhodora 7: 50. 1905

J. bicornis Michx. Fl. Bor. Am. 1: 191. 1803

In dry or moist soil. Very common and variable.

The varieties **anthelatus** Wiegand, and **Williamsii** Fernald, are easily distinguishable among the numerous collections from New York.

- 11 **Juncus secundus** Beauv.; Poir. Encyc. Suppl. 3: 160. 1813
Second rush

J. tenuis var. *secundus* Engelm., l.c. 450

In dry soil. Frequent across the State, chiefly south of the Adirondacks, but occasionally throughout the mountains at lower elevations. Not reported from west of Onondaga county, but probably locally distributed throughout the western counties. Collected at Blue Mountain lake by Peck.

- 12 **Juncus Vaseyi** Engelm. Trans. St Louis Acad. 2: 448. 1866
Vasey's rush

Black river, Jefferson county (Fernald in *Rhodora* 6: 41. 1904). The only record for this State.

- 13 **Juncus Greenei** Oakes & Tuckerman, Am. Jour. Sci. 45: 37.
1843 Greene's rush

In moist or dry soil. Uncommon or rare on Staten Island and on Long Island, and inland to Westchester and Ulster counties.

- 14 **Juncus dichotomus** Ell. Bot. S. C. & Ga. 1: 416. 1817
Forked rush

In dry soil, chiefly south of our borders. Reported as rare near the coast of Long Island and on Staten Island. Also reported from Plum and Fisher's islands by *C. B. Graves*.

- 15 **Juncus marginatus** Rostk. Monog. Junc. 38. pl. 2. f. 3. 1801
Grass-leaved rush

In moist grassy, usually sandy soil. Frequent on Long Island and Staten Island. Less common northward to the southern foothills of the Adirondack mountains and westward to Lake Ontario and Lake Erie.

- 16 **Juncus aristulatus** Michx. Fl. Bor. Am. 1: 192. 1803
Large grass-leaved rush

J. aristatus Pers. Syn. 1: 385. 1805

J. biflorus Ell. Bot. S. C. & Ga. 1: 417. 1817

J. marginatus biflorus Wood, Class-book, ed. 2, 725. 1861

J. marginatus aristulatus Coville, Proc. Biol. Soc. Washington 8: 123. 1893

In moist soil and meadows. Long Island and Staten Island, and near Van Cortlandt Park, New York City. Engelmann (l.c. 455)

states that *J. aristulatus* Michx. is exactly the same as *J. marginatus* Rostk.

17 *Juncus stygius* L. Syst. Nat. ed. 10, 2: 987. 1759 Moor rush
J. stygius var. *americanus* Buchenau in Engler, Bot. Jahrb. 12: 393. 1890

Sphagnum marshes and borders of ponds and lakes. Rare in northern New York.

Perch lake, Jefferson county, *Gray* (Torrey, Fl. N. Y. 2: 331. 1843 — Paine, Cat. 145. 1865); station destroyed by the raising of the level of the lake prior to 1865, according to Paine. Boreas pond, Essex county, *Peck* (27th Rep't N.Y. State Mus. 113. 1877). Deer pond near North lake, Wilmurt, Herkimer county, *Haberer* (*Rhodora* 7: 94. 1905).

18 *Juncus pelocarpus* E. Meyer, Syn. Luz. 30. 1823
Brown-fruited rush

J. fluitans Michx. Fl. Bor. Am. 1: 191. 1803. Not Lam.

J. viviparus Conrad, Jour. Acad. Phila. 6: 105. 1828

J. Muhlenbergii Spreng. Syst. 2: 106. 1825

J. Conradi Tuckerm.; Torrey, Fl. N. Y. 2: 328. 1843

On banks and shores of ponds and lakes, and along slow streams, often in shallow water. Locally abundant across the northern part of the State, south to Dutchess county, and reported from Long Island.

West Fort Ann, Washington county, *Burnham*. Sacandaga river, Fulton county, *Olsson*. Albany, *Beck*. Lake Harris, Essex county, *House*. Lake Pleasant, Hamilton county, *House*. Onondaga lake and mouth of Genesee river, *Sartwell* (Paine, Cat. Pl. Oneida Co. 145. 1865). North Elba, Essex county, *Peck*. Norfolk, St Lawrence county, *Mrs O. P. Phelps*. Pine Plains, Dutchess county, *Hoysradt*.

19 *Juncus militaris* Bigelow, Fl. Bost. ed. 2, 139. 1824
Bayonet rush

Shallow margins of lakes, ponds and streams Infrequent or rare, across the northern part of the State and on Long Island.

Fine, St Lawrence county, *Mrs O. P. Phelps*. Big Moose, Herkimer county, *Peck*. (52d Rep't 654. 1899). Mud pond and Clear pond near Long lake, Oneida county, *Peck* (40th Rep't 52. 1887). Highland lake, Sullivan county, *Peck* (47th Rep't 35. 1894) Riverhead, Long Island, *Peck* (46th Rep't 50. 1893). Lynbrook, Long Island, *Taylor*.

20 *Juncus articulatus* L. Sp. Pl. 327. 1753 Jointed rush

Wet or marshy soil. Frequent or locally common from Lake Champlain and Lake George, and Albany county, westward to the

St Lawrence and Lake Erie. Not reported from the southern counties of the State.

Var. **obtusatus** Engelm.; A. Gray, Man. ed. 5, 541. 1867. Infrequent and local across the state northward. Stockholm, St Lawrence county, *Mrs O. P. Phelps*. Waterville, Oneida county, *House*.

Var. **stolonifer** (Wohlleb.) House, comb. nov.

J. stolonifer Wohlleb. Suppl. Leys. Fl. Hal. 13. 1796

J. repens Nolte, Novit. Fl. Hols. 38. 1826

J. radicans Schur. Enum. Pl. Transs. 685. 1866

J. lampocarpus [Race *Eu-lampocarpus*] (b) *stolonifer* Aschers. & Graebn. Syn. Mittleeu. Fl. 2²: 479. 1904

Stems creeping, rooting at the nodes, where most of the numerous short leaves are clustered; leaves erect or spreading, 3-8 cm long and taper-pointed, green; sheaths loose, green with narrow white membranous margins; inflorescence usually irregular or small, but flowers and fruit normally like those of the typical species.

Sandy beach, south shore of Oneida lake, Madison county, *House*, 1920.

21 *Juncus alpinus* Vill. Hist. Pl. Dauph. 2: 233. 1787

Alpine rush

On sandy or boggy shores. The typical form common in arctic and subarctic America, and reported from Oneida county, *Haberer*.

Var. **fuscescens** Fernald, *Rhodora* 10: 48. 1908

Branches of the inflorescence loosely ascending, not strict; glomerules compact and regularly flowered; flowers greenish or straw-colored. Locally abundant across the State northward, especially along shores of lakes and ponds, southward to Washington, Herkimer and Tompkins counties and westward to Lake Erie.

Var. **insignis** Fries; Engelm. Trans. St Louis Acad. 2: 458. 1866 — Buchenau, Mon. Junc. 374. 1890

J. affinis R. Br.; Richardson, App. Frankl. Jour. 735. 1823. Not Gaudin

J. Richardsonianus Schultes, Syst. 7: 210. 1829

On sandy or boggy shores and in marshes. Infrequent or local across the northern part of the State and westward to Bergen swamp, Genesee county. Probably of somewhat wider distribution in the State.

22 *Juncus nodosus* L. Sp. Pl. ed. 2, 466. 1762 Knotted rush

In swamps and on wet banks and shores. Common across the State northward and westward to Lake Erie. Less common southward to Dutchess and Ulster counties and westward in the southern tier of counties.

23 **Juncus Torreyi** Coville, Torr. Club Bul. 22: 303. 1895
Torrey's rush

J. nodosus var. *megacephalus* Torrey, Fl. N. Y. 2: 326. 1843

J. megacephalus Wood, Class-book, ed. 2, 724. 1861. Not Curtis, 1835

On wet, usually sandy shores, often in shallow water. Infrequent from Fulton county westward along the Great Lakes.

Johnstown, Fulton county, *A. Olsson*. Oneida lake, *House*. Mud lake, Oswego county, *Sheldon*. Shore of Lake Ontario, *Gray* (Torrey, l.c.). Woodville, Jefferson county, *House*. Long pond, Monroe county, *Searing* (Proc. Rochester Acad. 3: 112. 1896). Olcott Beach, Niagara county, *House*. Irondequoit Bay, *House*.

Reported from Long Beach, Long Island, *Taylor* (Fl. Vic. N. Y. 226. 1915 and Calverton, *Ferguson* (Torr. Club Bul. 51: 187. 1924).

24 **Juncus scirpoides** Lam. Encycl. 3: 267. 1789
Scirpus-like rush

J. polycephalus Michx. Fl. Bor. Am. 1: 192. 1803

On wet sandy shores. Frequent throughout most of the Adirondack region, westward and southward, and reported from the coastal region.

Lake in the north woods; North pond near Alder creek, Oneida county; shore of Lake Ontario near Sackett's Harbor, *Gray*; Canaderaga lake outlet, Otsego county; southern Oneida county and Madison county, *Gray*; Yates county, *Sartwell* (Paine, Cat. Pl. Oneida Co. 144. 1865). Monroe county, *Booth*, and Wayne county, *Wright* (Proc. Rochester Acad. 3: 112. 1896). South side of Long Island and on Staten Island, *Taylor* (Fl. Vic. N. Y. 226. 1915). Staten Island, *Austin*. Amagansett and Yaphank, Long Island, *Peck*.

25 **Juncus brachycephalus** (Engelm.) Buchenau, in Engler, Bot. Jahrb. 12: 268. 1890
Small-headed rush

J. polycephalus var. (?) *depauperatus* Torrey, Fl. N. Y. 2: 327. 1843

J. canadensis var. *brachycephalus* Engelm. Trans. St Louis Acad. 2: 474. 1863

In moist or wet sandy soil. Infrequent but widely distributed across the State outside of the Adirondacks, westward to the St Lawrence, Lake Erie and southward to Columbia, Tompkins, Tioga and Chautauqua counties.

Western New York, *Gray*, *Sartwell*, *Vasey*, *Clinton* (Engelm. l.c.). Washington county, *Burnham*. Herkimer county, *Haberer*. Jamesville, Onondaga county and Sevey, St Lawrence county, *Peck*. (Mus. Bul. 139: 24. 1910—105: 24. 1906). West Dandy, Tompkins county, *Dudley*. Waverly, Tioga county, *Fenno*. Mumford, Monroe county, *E. J. Hill* (Torr. Club Bul. 8: 47. 1881). Bergen swamp, Genesee county, *Baxter* (Proc. Rochester Acad. 5: 30. 1910). Watkins, *Peck*. Copake Falls, Columbia county, *Taylor* (Fl. Vic. N. Y. 226. 1915).

- 26 **Juncus canadensis** J. Gay; Laharpe, Mon. Junc. 134. 1825
Canada rush
J. polycephalus var. *paradoxus* Torrey, Fl. N. Y. 2: 327. 1843
J. paradoxus A. Gray. Not Meyer
J. canadensis var. *longicaudatus* Engelm., l.c. 474

Marshy places. Frequent or common throughout the State. Var. **subcaudatus** Engelm., l.c., (*J. subcaudatus* Coville & Blake, Contr. U. S. Nat. Herb. 21: 119. 1919) less common or local and chiefly in the coastal region.

- 27 **Juncus brevicaudatus** Fernald, Rhodora 6: 35. 1904
Narrow-panicked rush
J. canadensis var. *brevicaudatus* Engelm., l.c. 436 (without descr.)
J. canadensis var. *coartatus* Engelm., l.c. 474
J. acuminatus Torrey, Fl. N. Y. 2: 327. 1843. Not Michx. 1803

Wet soil, marshes and boggy shores. Common northward across the State, westward to Lake Erie. Less frequent southward to Orange county and not reported from Long Island or Staten Island.

- 28 **Juncus paradoxus** E. Meyer, Syn. Junc. 30. 1822
Sharp-fruited rush
J. acuminatus Michx. Fl. Bor. Am. 1: 192. 1803. Not Balbis, 1801
J. pallescens E. Meyer, l.c. 31
J. sylvaticus Muhl. Cat. 36. 1814. Not Huds.
J. fraternus Kunth, Enum. Pl. 3: 340. 1841
J. Pondii Wood, Class-book, 724. 1861

In wet soil and on marshy shores. Frequent or common throughout the State, but apparently rare or at least not reported from the northern counties and the northern and higher Adirondacks.

- 29 **Juncus debilis** A. Gray, Man. 506. 1848 Weak rush
Reported from Bellport, Long Island, and Staten Island, *Taylor* (Fl. Vic. N. Y. 227. 1915).

JUNCOIDES Adans. Fam. Pl. 2: 47. 1763

- Luzula* DC. Fl. Fr. 3: 158. 1805
Juncodes (Moehring, 1736), Kuntze, Rev. Gen. Pl. 722. 1891
Cyperella (Cram. 1744) MacM. Met. Minn. 142. 1893

- 1 **Juncoides Carolinae** (S. Wats.) Kuntze, Rev. Gen. Pl. 724. 1891
Hairy wood rush

- L. pilosa* Muhl. Gram. 200. 1817. Not Willd.
L. carolinae S. Wats. Proc. Am. Acad. 14: 302. 1879
L. vernalis Wats. & Coult.; Gray, Man. ed. 6, 546. 1890. Not Lam.
Juncoides pilosum Coville, Torr. Club Mem. 5: 108. 1894. Not Kuntze, 1891
L. saltuensis Fernald, Rhodora 5: 195. 1903
Juncoides saltuensis Heller, Muhlenbergia 6: 12. 1910

In woods and thickets. Frequent or common across the State, but not reported from the coastal region of the State.

Fernald describes the northern form *L. saltuensis* as distinct from *L. Carolinae*. Material available is not sufficient to pass on the question. Britton & Brown consider them identical, and the seventh edition of Gray's Manual extends the range of *L. saltuensis* southward to the Carolinas, which is the type locality of *L. Carolinae*. From descriptions alone they seem very much the same.

2 *Juncoides nemorosum* (Poll.) Kuntze, l.c. 724 Forest wood rush

Juncus nemorosus Poll. Hist. Pl. Pal. 1: 352. 1776.

Luzula nemorosa E. Meyer, Linnaea 21: 395. 1848

Native of Europe and naturalized at Riverdale, New York City, and at Niagara Falls (Ont.).

3 *Juncoides parviflorum* (Ehrh.) Coville, Contr. U. S. Nat. Herb.

4: 209. 1893

Small-flowered wood rush

Juncus parviflorus Ehrh. Beitr. 6: 139. 1791

Luzula parviflora Desv. Jour. Bot. 1: 144. 1808

Juncus melanocarpus Michx. Fl. Bor. Am. 1: 190. 1803

L. melanocarpa Desv., l.c. 142. t. 5. f. 2.

Wooded slopes and ravines in the higher Adirondack region. Frequent on all of the higher mountains of Essex county, and locally in Franklin, Hamilton and Herkimer counties.

4 *Juncoides spicatum* (L.) Kuntze, l.c. 725 Spiked wood rush

Juncus spicatus L. Sp. Pl. 330. 1753

Luzula spicata DC. Fl. Fr. 3: 161. 1805

Wallface mountain and Indian Pass, Peck (N. Y. State Mus. Bul. 28: 135. 1899 — 54: 959. 1902).

5 *Juncoides intermedium* (Thuill.) Rydb. Torr. Club Bul. 32:

610. 1905

Common wood rush

Juncus multiflorus Ehrh. in Hoffm. Pl. Deutsch. ed. 2, 1: 169. 1800. Not Retz. 1795

J. intermedius Thuill. Fl. Env. Paris, ed. 2, 178. 1799

Luzula erecta Desv. Jour. Bot. 1: 156. 1808

L. multiflora LeJeune, Fl. Spa. 1: 169. 1811

J. liniger Purton, Br. Pl. Midland Co. 352. pl. 9. 1817

Cyperella campestris var. *multiflora* MacM., l.c. 143

Juncoides campestris var. *multiflorum* Sheldon, Minn. Bot. Stud. 1: 65. 1894

Juncoides multiflorum Druce, Ann. Scott. Nat. Hist. 42. 1904

Luzula intermedia A. Nelson, New Man. Bot. Centr. Rocky Mts. 109. 1909

In woodlands and fields. Very common throughout the State. Formerly reported as *Luzula campestris*. The species exhibits considerable variation, but as typical European *J.*

campestre is not represented in America, it may best be considered as a distinct species.

Var. *echinatum* (Small) House, N. Y. State Mus. Bul. 243-244: 59. 1923.

Juncoides echinatum Small, *Torrey* 1: 74. 1901

Luzula multiflora var. *echinata* Fernald & Wiegand, *Rhodora* 15: 42. 1913

J. campestre echinatum Coville & Blake, *Contr. U. S. Nat. Herb.* 21: 119. 1919

Inflorescence looser and rarely with more than one of the heads sessile, others more spreading (often widely divergent) longer rays (up to 5.5 cm long). A southern variety reported northward to the coastal region of Massachusetts, and which may be looked for in southern New York.

Family 19 **MELANTHACEAE** R. Br. *Prodr.* 1: 272. 1810
Bunchflower family

TRIANTHELLA House, *Am. Mid. Nat.* 7: 127. 1921

Tofieldia, Sect. *Triantha* Nutt. *Gen.* 1: 235. 1818

Triantha Baker, *Jour. Linn. Soc.* 17: 490. 1879. Not *Trianthus*

Hook. f. *Fl. Antart.* 2: 320. 1846

Asphodeliris Moehr.; Kuntze, *Rev. Gen. Pl.* 706. 1891, in part

Trianthella glutinosa (Michx.) House, l.c.

Narthecium glutinosum Michx. *Fl. Bor. Am.* 1: 210. 1803

Tofieldia glutinosa Pers. *Syn.* 1: 399. 1805

Triantha glutinosa Baker, l.c.

A. glutinosa Kuntze, l.c.

In marly bogs. Rare.

Formerly in Lodi swamp, Syracuse, *Wibbe* (27th Rep't N. Y. State Mus. 113. 1877); *Underwood*, *Sheldon*, *Peck* etc. Common in Bergen swamp, Genesee county.

HELONIAS L. *Sp. Pl.* 342. 1753

Helonias bullata L., l.c.

Swamp pink

Rossville, Staten Island, *Britton & Hollick* (*Torr. Club Bul.* 9: 101. 1882).

CHAMAELIRIUM Willd. *Mag. Nat. Fr. Berlin* 2: 19. 1808

Siraitos Raf. *Fl. Tellur.* 4: 26. 1838

Chamaelirium luteum (L.) A. Gray, *Man.* 503. 1848

Blazing star

Veratrum luteum L. *Sp. Pl.* 1044. 1753

C. carolinianum Willd., l.c. 19

Helonias lutea Ait. *Hort. Kew. ed. 2, 2:* 330

H. dioica Pursh, *Fl. Am. Sept.* 243. 1814. *Torrey*, *Fl. N. Y.* 2: 318. 1843

Ophiostachys virginica Delile, in *Red. Lil. t.* 464. 1816

Siraitos aquaticus Raf. l.c. 27.

Moist meadows and thickets. Rensselaer county westward to Lake Erie and southward. Common in many portions of Long Island and Staten Island.

Poestenkill, Rensselaer county, *Wright & Hall* (Cat. Pl. Troy, 20. 1836). Nassau, *Wibbe* (31st Rep't N. Y. State Mus. 53. 1879). Owasco lake, Cayuga county, *Hall*; Yates county, *Sartwell*; Rochester, *Z. H. Harris*, *Bradley*, and Montgomery county, *Paine* (Cat. Pl. Oneida Co. 190. 1865). Onondaga Valley, *Goodrich* (Pl. Onon. Co. 62. 1912). Caledonia, Livingston county *Beckwith* (Proc. Rochester Acad. 3: 110. 1896). Broome county, *Millsbaugh*. Apalachin, Tioga county, *Fenno*. Collins, Erie county, *Perkins*. Buffalo, *Day* (Pl. Buffalo, 19. 1883). Catskill, *Eaton* (Man. Ed. 3. 303. 1822).

CHROSPERMA Raf. Neogent. 3. 1825

Amianthium A. Gray, Ann. Lyc. N. Y. 4: 121. 1837

Chrosperma muscaetoxicum (Walt.) Kuntze; Rev. Gen. Pl. 708. 1891 Fly poison

Melanthium muscaetoxicum Walt. Fl. Car. 125. 1788

M. laetum Soland. in Ait. Hort. Kew. 1: 488. 1789

A. muscaetoxicum A. Gray, l.c. 122

In dry sandy woods, western Long Island, south of the moraine. Rare. Apparently once more abundant there before the growth of greater New York.

ANTICLEA Kunth, Enum. 4: 191. 1843

Anticlea glauca (Nutt.) Kunth, l.c. 192 False asphodel

Melanthium glaucum Nutt. Gen. 1: 232. 1818

Zygadenus glaucus Nutt. Jour. Acad. Phila. (II) 7: 56. 1834

Z. chloranthus Richardson, Frankl. Jour. 736. 1821

Z. commutatus Schultes, Syst. 7: 1560. 1830

A. chlorantha Rydb. Torr. Club. Bul. 30: 273. 1903

Z. elegans of N. Y. Reports, not of Pursh

On wet calcareous banks or in marly bogs. Rare.

Gravelly banks of the St Lawrence (according to Nuttall). About the falls of Niagara and on Lake Erie, *Torrey* (Fl. N. Y. 2: 316. 1843). Syracuse, *Wibbe* (27th Rep't N. Y. State Mus. 113. 1877), station now destroyed. Caledonia, Livingston county and Bergen swamp, Genesee county, *Paine* (Cat. Pl. Oneida Co. 143. 1865); *Clinton* (19th Rep't Regents 79. 1866). Mumford, Genesee county, *E. J. Hill* (Torr. Club Bul. 8: 45. 1881); *Beckwith* (Proc. Rochester Acad. 3: 111. 1896). *Sullivans*, Ontario county, *Suydam* (Proc. Rochester Acad. 5: 80. 1917).

OCEANORUS Small, Fl. SE. U. S. 252. 1903

Oceanorus leimanthoides (A. Gray) Small, l.c.

Pine-barren oceanorus

Amianthium leimanthoides A. Gray, Ann. Lyc. N. Y. 4: 125. 1837

Zygadenus leimanthoides S. Wats. Proc. Am. Acad. 14: 280. 1879

Rockville Center, Long Island, *Bicknell* (Torreya 10: 83. 1910).

MELANTHIUM L. Sp. Pl. 339. 1753

1 **Melanthium virginicum** L., l.c. Bunchflower

In meadows, wet woods and marshes, southern part of the State. Rare.

Tarrytown, *E. C. Howe* (Torr. Club Bul. 9: 35. 1882). Staten Island, *Torrey* (Fl. N. Y. 2: 316. 1843). Long Island, *Taylor*.

2 **Melanthium latifolium** Desr. in Lam. Encycl. 4: 25. 1797

Crisped bunchflower

In dry woods and on hillsides, southern part of the State. Rare.

Bronx, Westchester and Rockland counties, *Taylor* (Fl. Vic. N. Y. 230. 1915). Scarsdale, *Willis* (Torr. Club Bul. 11: 21. 1884). Orange county, *Horton* (Torrey, Fl. N. Y. 2: 316. 1843, and in Beck herbarium).

VERATRUM L. Sp. Pl. 1044. 1753

Veratrum viride Ait. Hort. Kew. 3: 422. 1789

American white hellebore, Indian poke

V. album Michx. Fl. Bor. Am. 1: 249. 1803. Not L. 1753

In swamps and wet woods. Frequent or common throughout the eastern, northern and central portions of the State. Less frequent or rare westward to Lake Erie and southward to Long Island. Ascends to the summit of Mount Marcy.

Family 20 **LILIACEAE** Zinn, Cat. Pl. Hort. Goett. 1757

Lily family

HEMEROCALLIS L. Sp. Pl. 324. 1753

1 **Hemerocallis fulva** L. Sp. Pl. ed. 2, 462. 1762 Day lily

H. Lilio-Asphodelus β. *fulvus* L. Sp. Pl. 324. 1753

Native of Europe and Asia. Common in cultivation and established or naturalized along roadsides, in old yards and waste ground. Sometimes along streams and in meadows.

2 **Hemerocallis flava** L., Sp. Pl. ed. 2, 462. 1762 Yellow day lily

H. Lilio-Asphodelus α. *flavus* L. Sp. Pl. 324. 1753

Native of southern Europe. Common in cultivation and occasionally established by roadsides in eastern and southern New York and locally elsewhere.

ALLIUM L. Sp. Pl. 294. 1753

Validallium Small, Fl. SE. U. S. 264. 1903
Ophioscorodon Wallr. Sched. Crit. 129. 1822
Cepa (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754
Porrum (Tourn.) Mill., l.c.
Moly (Boerh.) Moench, Meth. 286. 1794

1 **Allium tricoccum** Ait. Hort. Kew. 1: 428. 1789 Wild leek

Ophioscorodon tricoccum Wallr., l.c. (triconcon).
Validallium tricoccum Small, l.c.

In rich woods. Frequent or common across the State. Less common in the northern counties and in the western part of the State. Infrequent on Long Island.

2 **Allium sibiricum** L. Mant. 2: 562. 1771 Chives, rush garlic

In moist soil and on rocky ledges and shores. Northern part of the State, chiefly in St Lawrence, Lewis and Jefferson counties. Infrequent, rare or locally abundant.

3 **Allium cernuum** Roth, Arch. 1: part 3, 40. 1789 Nodding wild onion

Moist soil in open woods and thickets, and on banks, Chemung, Tioga, Schuyler and Seneca counties westward. Infrequent.

4 **Allium vineale** L. Sp. Pl. 299. 1753 Wild garlic

Naturalized from Europe, and locally frequent across the state, especially southward.

5 **Allium canadense** L. Sp. Pl. 1195. 1753 Meadow garlic

In moist meadows and thickets. Widely distributed across the State from Lake Champlain to St Lawrence county westward and southward, but not reported from the Adirondack and Catskill mountains. Most abundant in the alluvial meadows of the Hudson, Mohawk and other large stream valleys.

LILIUM L. Sp. Pl. 302. 1753

1 **Lilium philadelphicum** L. Sp. Pl. ed. 2, 435. 1762 Red lily, Wood lily, Philadelphia lily

In dry woods and thickets, usually in sandy soil. Locally common across the State. Rare in the northern counties and rarely found above 1500 feet altitude in the Adirondacks. Rare on eastern Long Island and south of the moraine. Very common on the sandy plains of Albany, Oneida and Monroe counties. *Forma flaviflorum*, E. F. Williams, (*Rhodora* 15: 218. 1913) with yellow flowers. Rare, Karner, Albany county, *House*.

2 *Lilium canadense* L. Sp. Pl. 303. 1753

Wild yellow lily, Canada or nodding lily

In swamps, low meadows and thickets. Common or frequent throughout the State.

3 *Lilium superbum* L. Sp. Pl. ed. 2, 434. 1762. Turk's-cap lily

In meadows and marshes. Frequent or common on Long Island and Staten Island. Less common northward to Albany county and westward to Lake Ontario and Lake Erie.

4 *Lilium tigrinum* Andr. Bot. Rep. 9: errata. 1809 — Ker. Bot. Mag. t. 1237. 1809 Tiger lily

Native of China and Japan. Common in cultivation and tending to become established in some localities.

ERYTHRONIUM L. Sp. Pl. 305. 1753

1 *Erythronium americanum* Ker. Bot. Mag. pl. 1113. 1808

Yellow adder's-tongue, Dog's-tooth violet

E. angustatum Raf. Med. Repos. (II) 5: 354. 1808

E. bracteatum Bigel.; Beck Bot. 365. 1833

E. Dens-canis Michx. Fl. Bor. Am. 1: 198. 1803. Not L. 1753

E. lanceolatum Pursh, Fl. Am. Sept. 230. 1814

In moist woods and thickets. Common north of the coastal plain. Very rare in the pine-barrens of Long Island and unknown on the south side of Long Island (according to Taylor).

2 *Erythronium albidum* Nutt. Gen. 1: 223. 1818

White adder's-tongue

In moist woods and thickets. Infrequent or rare from Rensselaer county westward and southward.

Meadows north of Albany. *Wright & Hall* (Cat. Pl. Troy, 17. 1836). Albany, *Beck*, *Eights* (Torrey, Fl. N. Y. 2: 307. 1843). Albany, *Eaton*; Delaware county, *B. D. Gilbert* (Paine, Cat. Pl. Oneida Co. 143. 1865). Oxford, Chenango county, *Coville* (Torr.

Club Bul. 12: 53. 1885). Scarce in Wayne and Monroe counties (Proc. Rochester Acad. 3: 110. 1896). Buffalo, Clinton (19th Rep't Regents 205. 1866). W. Seneca and Alden, Erie county, Day (Pl. Buffalo 80. 1883). Collins, *Dr Anne E. Perkins*.

ORNITHOGALUM L. Sp. Pl. 306. 1753

1 **Ornithogalum umbellatum** L., l.c. 307 Star-of-Bethlehem

In fields and meadows. Locally common. Naturalized from Europe or escaped from cultivation.

2 **Ornithogalum nutans** L., l.c. 308

Local or rare as an escape from cultivation. Owasco lake, *Dr W. J. Nellis*.

MUSCARI Mill. Gard. Dict. abr. ed. 4. 1754

1 **Muscari botryoides** (L.) Mill. Gard. Dict. ed. 8, No. 1. 1768
Grape hyacinth

Hyacinthus botryoides L. Sp. Pl. 318. 1753

In meadows, thickets and along roadsides. Escaped from gardens. Native of southern Europe.

2 **Muscari racemosum** (L.) Mill. l.c. No. 2

Starch grape hyacinth

Hyacinthus racemosus L., l.c.

Escaped from gardens in southern New York. Native of Europe.

ALETRIS L. Sp. Pl. 319. 1753

Aletris farinosa L., l.c. Star grass, ague or colic root

A. alba Michx. Fl. Bor. Am. 1: 189. 1803

In dry, mostly sandy soil, southern part of the State, northward to Bronx and Westchester counties. Locally common on Long Island and Staten Island.

Family 21 **CONVALLARIACEAE** Link, Handb. 1: 184. 1829

Lily-of-the-valley family

ASPARAGUS L. Sp. Pl. 313. 1753

Asparagus officinalis L., l.c. Asparagus

Escaped from cultivation and naturalized in many sections of the State. Native of Europe.

CLINTONIA Raf. Am. Mo. Mag. 2: 266. 1818

1 **Clintonia borealis** (Ait.) Raf. Atl. Jour. 120. 1832

Yellow clintonia, dogberry

Dracaena borealis Ait. Hort. Kew. 1: 454. 1789

Smilacina borealis Ker. Bot. Mag. t. 1403. 1808

C. mutans Raf. Ann. Nat. 16. 1920

In moist woods and thickets. Common throughout the northern and central portions of the State, south to the Catskills, Hudson highlands and Sam's Point, Ulster county (*Britton*). Rare or local westward in the State.

Forma *lateralis* Peck, in the Adirondacks and at Cooperstown Junction, Peck. Forma *albicarpa* Killip, with white fruit, at Fourth lake, Herkimer county, *Killip*; New London, Oneida county, *House*; and Newcomb, Essex county, *House*.

2 **Clintonia umbellulata** (Michx.) Shafer, Ann. Carneg. Mus. 1:

109. 1902

White clintonia

Dracaena umbellulata Michx. Fl. Bor. Am. 1: 202. 1803

C. ciliata Raf. Jour. Phys. 89: 102. 1819

C. podanisia, *parviflora*, & *odorata* Raf. Ann. Nat. 16. 1820

C. umbellata Torr. Fl. N. Y. 2: 301. 1843

C. umbellulata Torr.; Britton & Brown, Illus. Fl. Ed. 2, 1: 515. 1913

In woods throughout the western and southwestern parts of the State, chiefly in Erie, Steuben, Cattaraugus and Chautauqua counties.

VAGNERA Adans. Fam. Pl. 2: 496. 1763

Tovaria Neck. Elem. 3: 190. 1790—Baker, Jour. Linn. Soc. 14: 567. 1875. Not *Tovara* Adans.

Polygonastrum Moench, Meth. 637. 1794

Smilacina Desf. Ann. Mus. Paris 9: 51. 1807

1 **Vagnera racemosa** (L.) Morong, Torr. Club Mem. 5: 114. 1894

Wild or false spikenard

Convallaria racemosa L. Sp. Pl. 315. 1753

Tovaria racemosa Neck., l.c.

Smilacina racemosa Desf., l.c.

Maianthemum racemosum Link, Enum. Hort. Berol. 1: 343

In moist woods and thickets. Common across the State except in the higher Adirondacks and Catskills, where it is rare or absent.

2 **Vagnera stellata** (L.) Morong, l.c.

Star-flowered Solomon's seal

Convallaria stellata L., l.c. 316

Smilacina stellata Desf., l.c.

Maianthemum stellatum Link, l.c.

Unifolium stellatum Greene, Torr. Club Bul. 15: 287. 1888

In moist soil. Frequent or common across the State north of the Hudson highlands and outside of the higher Adirondacks. Rare on Staten Island and Long Island.

3 **Vagnera trifolia** (L.) Morong, l.c. Three-leaved Solomon's seal

Convallaria trifolia L., l.c.

Tovaria trifolia Neck, l.c.

Smilacina trifolia Desf., l.c.

Unifolium trifolium Greene, l.c.

In bogs and in wet or mossy woods. Common throughout the Adirondack region, the northern counties and in nearly all of the cold sphagnum swamps and bogs of central New York. Rare southward to Chenango, Orange and Dutchess counties and westward to Bergen swamp, Genesee county, southern Erie county and Machias, Cattaraugus county.

UNIFOLIUM Haller; Zinn, Cat. Pl. Hort.

Goett. 104. 1757

Styrandra Raf. Am. Mo. Mag. 266. 1818

Maianthemum Wigg. Prim. Fl. Hols. 14. 1780

Bifolium G. Gaertn., Mey. & Schreb. Fl. Wett. 1: 175. 1799

Unifolium canadense (Desf.) Greene, Torr. Club Bul. 15: 287.

1888 Two-leaved Solomon's seal, false or wild lily-of-the-valley

Maianthemum canadense Desf. Ann. Mus. Paris 9: 54. 1807

Smilacina bifolia Torr. Fl. N. Y. 2: 299. 1843

Smilacina canadensis Pursh, Fl. Am. Sept. 233. 1814

Styrandra canadensis Raf., l.c.

In moist woods and thickets. Common throughout the State except on the coastal plain, where it is rare or local. Common on or near to the highest summits of the Adirondack and Catskill mountains.

Var. **interius** (Fernald) comb. nov. (*M. canadense* var. *interius* Fernald, Rhodora 16: 211. 1914), with stem, rachis and leaves more or less pilose. Woods on sand dunes, Woodville, Jefferson county, House. Sandy Creek, Fernald & Wiegand (Rhodora 25: 209. 1923).

DISPORUM Salisb. Trans. Hort. Soc. 1: 331. 1812

Prosartes Don, Ann. Nat. Hist. 4: 341. 1840

Disporum lanuginosum (Michx.) Nichols. Dict. Gard. 1: 485.

1884

Hairy disporum

Streptopus lanuginosus Michx. Fl. Bor. Am. 1: 201. 1803

Prosartes lanuginosa Don, Trans. Linn. Soc. 18: 532. 1841

In woods and thickets. Infrequent or rare from Broome, Tomp-

kins, Chenango and Oneida counties westward. Increasingly frequent toward the southwestern part of the State.

UVULARIA L. Sp. Pl. 304. 1753

1 **Uvularia perfoliata** L. l.c. Perfoliate bellwort

In moist woods and thickets. Frequent across the State chiefly south of the Adirondacks. Rare or at least not reported from the northern counties and the higher and northern Adirondack region.

2 **Uvularia grandiflora** J. E. Smith, Exot. Bot. 1: 99. pl. 51. 1804
Large-flowered bellwort

U. perfoliata var. *major* Michx. Fl. Bor. Am. 1: 199. 1803

In rich woods. Common or frequent across the State. Rare or local on Long Island and Staten Island. Not reported from North Elba by Peck, but frequent in most parts of the Adirondack region and the northern counties.

OAKESIELLA Small, Fl. SE. U.S. 271. 1903

Oakesia S. Wats. Proc. Am. Acad. 14: 269. 1879. Not Tuckerm. 1842

Oakesiella sessilifolia (L.) Small, l.c. Sessile-leaved bellwort

Uvularia sessilifolia L. Sp. Pl. 305. 1753

Oakesia sessilifolia S. Wats., l.c.

In moist woods, thickets and openings. Frequent or common throughout the State, especially in sandy soils, except in the pine-barrens of Long Island.

STREPTOPUS Michx. Fl. Bor. Am. 1: 200. 1803

1 **Streptopus amplexifolius** (L.) DC. Fl. Fr. 3: 174. 1803
Clasping-leaved twisted stalk

Uvularia amplexifolia L. Sp. Pl. 304. 1753

S. distortus Michx., l.c.

S. amplexicaulis Poir, Dict. 7: 467. 1806

S. amplexifolius var. *americanus* R. & S. Syst. 7: 311. 1829

In moist, wet or cold mossy woods and swamps. Common across the northern part of the State and locally common in deep cold swamps southward to the mountains of Greene and Ulster counties, and in Otsego, southern Herkimer, Oneida and Madison counties. Not reported from west of Onondaga county.

- 2 **Streptopus roseus** Michx. Fl. Bor. Am. 1: 201. *pl.* 18. 1803
Sessile-leaved twisted stalk

Uvularia rosea Pers. Syn. 1: 360. 1805

Hexorima dichotoma Raf. Med. Repos. (II) 5: 351. 1808

In moist or rocky woods. Common across the State northward. Less frequent southward to Westchester county and in the western counties of the State.

POLYGONATUM (Tourn.) Mill. Gard. Dict. abr. ed. 4. 1754
Solomonina Heist.; Fabr. Enum. Pl. Hort. Helmst. 20. 1759
Evallaria Neck. Elem. 3: 189. 1790

- 1 **Polygonatum biflorum** (Walt.) Ell. Bot. S.C. & Ga. 1: 393.
1817 Small smooth Solomon's seal

Convallaria biflora Walt. Fl. Car. 122. 1788

C. angustifolia Eaton, Man. 213. 1818

P. angustifolium Pursh, Fl. Am. Sept. 234. 1814

Solomonina biflora Farwell, Rep. Comm. Parks Detroit 11: 53. 1900

In woods and thickets, southeastern part of the State. Apparently confined to the lowlands and sandy or light soils of the coastal region. Var. **hebetifolium** Gates (Torr. Club Bul. 44: 121. 1917), occurs on Staten Island (*Britton*).

- 2 **Polygonatum pubescens** (Willd.) Pursh, Fl. Am. Sept. 234.
1814 Hairy Solomon's seal

Convallaria pubescens Willd. Hort. Berol. 45. *pl.* 45. 1815

P. biflorum A. Gray, Man. ed. 2, 466. 1856; Britton & Brown, Illus. Fl. Ed. 2, 1: 521. *f.* 1295. 1913, as to plant described; not Ell.

P. boreale Greene, Leaflets 1: 181. 1906

In woods and thickets. Common throughout most sections of the State north of the moraine on Long Island. Forms of this rather variable species are described as var. **cuneatum** Farwell (Torr. Club Bul. 42: 253. 1915; *P. cuneatum* Greene); and var. **australe** (Farwell) Gates (Torr. Club Bul. 44: 119. 1917). This is the common species throughout the woodlands of nearly all sections of the State.

- 3 **Polygonatum commutatum** (J. A. & J. H. Schult.) Dietr.; Otto
& Dietr. Gartenz. 3: 223. 1835 Tall Solomon's seal

Convallaria commutata J. A. & J. H. Schult. Syst. 7: 1671. 1830

P. latifolium var. *commutatum* Baker, Jour. Linn. Soc. Bot. 14: 555. 1875

P. biflorum commutatum Morong, Torr. Club Mem. 5: 115. 1894

Salomonina commutata Britton, Man. 273. 1901

In woods and thickets, chiefly in moist or alluvial soil. Frequent and widely distributed across the State south of the Adirondacks.

Cold Spring, Putnam county, *Peck*. Portage, *Peck*. Bushnell, Monroe county, *House*.

Stems $1\frac{1}{2}$ to 3 feet tall, plant glabrous sometimes slightly glaucous; leaves 9 to 17 in number, sessile, the lower somewhat clasping, lanceolate to ovate-lanceolate, 7-11 nerved; flowers usually 3 (sometimes 3-4) in a cluster, very slender, 16-18 mm long.

4 **Polygonatum giganteum** Dietr.; l.c. 222 Giant Solomon's seal

P. biflorum var. *giganteum* Wood, Bot. & Flor. 346. 1870

P. canaliculatum giganteum Farwell, Torr. Club Bul. 42: 256. 1915

In woods and thickets, usually in moist or alluvial soil. Frequent or common across the State outside of the higher mountains.

Menands, Albany county, *Peck*. Wemple, Albany county, *House*. Rensselaer, *House*. Ithaca, C. S. *Sheldon*. Oneida, Madison county, *House*.

Stems 2 to 7 feet tall, with 21 to 36 elliptic-lanceolate to elliptical leaves, all but the uppermost strongly clasping, sometimes slightly pubescent beneath especially when young, 11 to 17 nerved; flowers twice as broad but only a little longer than the preceding, in clusters of 3 to 9; mature fruit darker blue and larger.

CONVALLARIA L. Sp. Pl. 314. 1753

Majanthemum [Silg. 1736] Kuntze, Rev. Gen. Pl. 981. 1891

Convallaria majalis L., l.c.

Lily-of-the-valley

M. majalis Kuntze, l.c.

Common in cultivation and occasionally escaped to fields and roadsides. Native of Europe.

Family 22 **TRILLIACEAE** Lindl. Nat. Syst. ed. 2, 347. 1836

Wake robin family

MEDEOLA L. Sp. 339. 1753

Medeola virginiana L., l.c.

Indian cucumber root

In moist woods and thickets. Common in most parts of the State.

TRILLIUM L. Sp. Pl. 339. 1753

1 **Trillium sessile** L. Sp. Pl. 340. 1753

Sessile-flowered wake robin

In moist woods and thickets. Rare. Near Irondequoit bay, Monroe county, *L. Holzer*, May 1863 (in state herbarium).

- 2 **Trillium grandiflorum** (Michx.) Salisb. Par. Lond. 1: pl. 1. 1805 White trillium, large-flowered wake robin

T. rhomboideum var. *grandiflorum* Michx. Fl. Bor. Am. 1: 216. 1803

In rich woods, thickets and openings. Frequent or common.

The so-called Var. **variegatum** Peck, is common in Onondaga county, and locally elsewhere. Monstrous forms with sepals and petals transformed into leaves, or with long-petioled leaves, are also found in Onondaga county (N. Y. State Mus. Bul. 105: 35. 1906). A double-flowered form is reported from Howe's Cave, (*F. W. Kelley*, N. Y. State Mus. Bul. 167: 35. 1913). A form with 5 leaves and flowers 5-parted, at Newport, Herkimer county *Geo. S. Graves* (state herbarium).

- 3 **Trillium erectum** L. Sp. Pl. 340. 1753

Red trillium, birthroot

T. rhomboideum Michx. Fl. Bor. Am. 1: 215. 1803

In woods and clearings. Common except on Long Island and Staten Island where it is scarce, at least south of the moraine. Forms with white or yellowish flowers are frequent.

Var. **declinatum** A. Gray, Man. ed. 5, 523. 1878 (*T. declinatum* Gleason, Torr. Club. Bul. 33: 389. 1906), occurs on Long Island, *Isaac Coles* (state herbarium). West Rush, Monroe county, *Baxter & Streeter* (Proc. Rochester Acad. 5: 30. 1910). Newark, Wayne county, *Hankenson*. Perhaps of wider distribution in the State.

- 4 **Trillium cernuum** L. Sp. Pl. 339. 1753 Nodding wake robin

In rich, usually moist woods. Infrequent but widely distributed. Scarce on Long Island, more abundant northward to Washington, Saratoga and Fulton counties, westward to St Lawrence county. Rare westward in the State to Wayne, Orleans and Erie counties.

Var. **macranthum** Eames & Wiegand (*Rhodora* 25: 191. 1923) with more showy flowers, petals often obovate, anthers longer, and longer peduncles, is recorded from Dryden, *Eames & MacDaniels*, and Lisbon, *Phelps*.

- 5 **Trillium undulatum** Willd. Neue Schrift. Gesell. Nat. Fr. Berlin 3: 422. 1801 Painted wake robin

T. erythrocarpum Michx. Fl. Bor. Am. 1: 216. 1803

T. acuminatum Raf. Med. Repos. (II) 5: 361. 1808

In woods. Locally common throughout the State. Reported but not definitely known from Long Island. Infrequent in the western counties of the State.

A form with 6 leaves and flowers 6-divided collected at Oswego by J. H. Wibbe, several years ago, and Emma Thomas has collected a form with 4 leaves and flowers 4-divided.

Family 23 **SMILACEAE** Vent. Tabl. 2: 146. 1799

Smilax Family

SMILAX L. Sp. Pl. 1028. 1753

Section 1 **Coprosmanthus** (Kunth) Engler

Nemexia Raf. Neogent. 3. 1825

Coprosmanthus Kunth, Abh. Akad. Berl. 35. 1848 — Enum. Pl. 5: 263. 1850

1 **Smilax herbacea** L., l.c. 1030.

Carrion flower

S. peduncularis Muhl.; Willd. Sp. Pl. 4: 786. 1805

N. cerulea, and *N. nigra* Raf., l.c.

Coprosmanthus herbaceus Kunth, Enum. Pl. 5: 264. 1850

N. herbacea Small, Fl. SE. U. S. 281. 1903

In woods and thickets. Frequent or common throughout most sections of the State outside of the higher Adirondacks, and apparently rare or not reported from the northern tier of counties.

2 **Smilax pulverulenta** Michx. Fl. Bor. Am. 2: 238. 1803

S. herbacea var. *pulverulenta* A. Gray, Man. ed. 5, 1868

N. pulverulenta Small, l.c.

In woods and thickets. Rare in the southern part of the State. Van Cortlandt Park, Pennell. Bartow, Taylor (Torreya 10: 147. 1910).

Farwell (2d Rept. Mich. Acad. Sci. 42. 1901), regards this as identical with *Smilax humilis* Miller (Gard. Dict. ed 8, No. 11. 1768) and calls it *S. herbacea* var. *humilis*.

3 **Smilax tamnifolia** Michx. Fl. Bor. Am. 2: 238. 1803

Halberd-leaved smilax

Coprosmanthus tamnifolia Kunth, l.c. 267

Nemexia tamnifolia Small, l.c.

In dry soil. Infrequent south of the moraine on Long Island.

Section 2, **Eusmilax** DC.

Parillax Raf. Neogent. 3. 1825

4 **Smilax glauca** Walt. Fl. Car. 245. 1788

Glaucous-leaved greenbrier

In dry sandy soil. Common on Long Island, Staten Island, and less frequent northward into Westchester county.

5 **Smilax rotundifolia** L. Sp. Pl. 1030. 1753

Catbrier, greenbrier

S. caduca L., l.c.

S. quadrangularis Willd. Sp. Pl. 4: 775. 1805

In woods and thickets. Frequent across the State southward. Less frequent or local northward to Rensselaer, Saratoga and Lewis counties and the Ontario lowlands.

6 *Smilax hispida* Muhl.; Torr. Fl. N. Y. 2: 302. 1843

Hispid catbrier

In woods, thickets and wooded swamps. Infrequent or local across the State from Rensselaer county to St Lawrence county, the Ontario lowlands and Lake Erie. Common southward.

Family 24 **HAEMODORACEAE** R. Br. Prodr. Fl. Nov. Holl.
1: 299. 1810

Bloodwort family

GYROTHECA Salisb. Trans. Hort. Soc. 1: 327. 1812

Lachnanthes Ell. Bot. S. C. & Ga. 1: 47. 1816

Gyrotheca tinctoria (Walt.) Salisb., l.c. Red root, paint root

Anonymo tinctori Walt. Fl. Car. 68. 1788

Dilatris caroliniana Lam. Ill. 1: 127. 1791

Heritiera Gmelini Michx. Fl. Bor. Am. 1: 21. 1803

Dilatris tinctoria Pursh, Fl. Am. Sept. 30. 1814

Lachnanthes tinctoria Ell., l.c.

Gyrotheca capitata Morong, Torr. Club. Bul. 20: 472. 1893

Sandy swamps on Long Island. Very rare. Manor, *Peck*. Ronkonkoma, *Harper* (Torreya 17: 108. 1917).

Family 25 **LEUCOJACEAE** Batsch, Gen. Pl. Jenens. 10, 30. 1786

AMARYLLIDACEAE Lindl. Nat. Syst. ed. 2, 328. 1836

Amaryllis family

NARCISSUS L. Sp. Pl. 289. 1753

1 *Narcissus Pseudo-Narcissus* L. l.c. Daffodil

Native of southern Europe. Escaped from cultivation and occasionally established.

2 *Narcissus poeticus* L. l.c. Poet's narcissus

Native of Europe and locally escaped from cultivation, but rarely established.

HYPOXIS L. Syst. ed. 10, 2: 986. 1759

Hypoxis hirsuta (L.) Coville, Torr. Club Bul. 5: 118. 1894

Yellow star grass

Ornithogalum hirsutum L. Sp. Pl. 306. 1753

Hypoxis erecta L. Syst. Ed. 10, 2: 986. 1759

H. carolinianum Michx. Fl. Bor. Am. 1: 188. 1803 (narrow-leaved phase)

H. graminis, Pursh, Fl. Am. Sept. 224. 1814

H. grandis Pollard; Small, Fl. S. E. U. S. 287. 1903 (broad-leaved phase)

In dry, usually sandy soil. Locally common across the State from Rensselaer and Saratoga counties westward to Oswego and Oneida counties, the Ontario lowlands and Lake Erie. More abundant southward in the State.

GALANTHUS L. Sp. Pl. 288. 1753

Galanthus nivalis L., l.c. Snowdrop

Native of Europe. Common in cultivation and often persistent about old yards and dwellings. Sometimes spreading into meadows and along roadsides.

LEUCOJUM L. Sp. Pl. 289. 1753

1 **Leucojum vernum** L., l.c. Spring snowflake

Native of central Europe. Common in cultivation and occasionally found as an escape, or persisting about old dwellings and yards.

2 **Leucojum aestivum** L. Syst. ed. 10, 2: 957. 1759

Summer snowflake

Native of central and southern Europe. Common in cultivation. Often persistent in old yards. Near Peterboro, Madison county, escaped and spreading throughout a sweetflag (*Calamus*) marsh.

Family 26 **TAMACEAE** S. F. Gray, Nat. Arr. Br. Pl. 2: 189
1821

DIOSCOREACEAE Lindl. Nat. Syst. Ed. 2, 359. 1836
Yam family

DIOSCOREA (Plum.) L. Sp. Pl. 1032. 1753

1 **Dioscorea villosa** L. l.c. 1033 Wild yam root

D. paniculata Michx. Fl. Bor. Am. 2: 239. 1803 — Bartlett, U. S. Dept. Agric. Bur. Pl. Ind. Bul. 189: 15. 1910

In moist thickets. Infrequent in the lower Hudson valley and on Long Island, perhaps also on Staten Island. Rare in the lower Susquehanna valley of New York and in Cayuga, Chautauqua and Erie counties.

Riverhead, Long Island, *Peck*. Broome, Tioga and Chemung counties, *Clute* (Fl. Upper Susquehanna 108. 1898). Owasco lake, *Hall* (Paine, Cat. 140. 1865). Black Rock and Tonawanda, Erie county, *Cowell* (Day, Pl. Buffalo 78. 1883).

The glabrous-leaved variety, *D. villosa* var. *glabrifolia* (Bartlett) Blake, *Rhodora* 20: 49. 1918 (*D. paniculata* var. *glabrifolia* Bartlett, l.c.), occurs in Connecticut, but has not been reported from New York.

- 2 *Dioscorea glauca* Muhl. Cat. 92. 1813 Glauous wild yam root
D. megaptera Raf. New Fl. 88. 1836
D. pruinosa Kunth, Enum. 5: 339. 1850
D. villosa var. *glabra* C. G. Lloyd, Suppl. Am. Disp. 81-83. 1880

In moist thickets. An Appalachian species extending northward along the Susquehanna valley into Tioga county.

Family 27 **IXIACEAE** Ecklon, Verzeichn. 18. 1827

(*Iridaceae* Lindl. 1836)

Iris family

IRIS (Tourn.) L. Sp. Pl. 38. 1753

- 1 *Iris versicolor* L., l.c. 39 Larger blueflag
I. virginica Pursh, Fl. Am. Sept. 29. 1814

In marshes, wet meadows and borders of streams, lakes and ponds, rarely in wet thickets. Common.

- 2 *Iris prismatica* Pursh, Fl. Am. Sept. 30. 1814
 Narrow blue flag, poison flagroot

- I. virginica* Muhl. Cat. Pl. 4. 1813
I. gracilis Bigel. Fl. Bost. 12. 1814
I. carolina Radius, Schrift. Nat. Ges. Leipsig 1: 158. 1822

In marshes and wet places. Long Island and Staten Island and locally northward into Westchester county.

This is described as *Iris virginica* L. in Torrey's Fl. N. Y. 2: 291. 1843, where it is stated that Muhlenburg sent specimens of it to Sir James E. Smith, who pronounced it the *Iris virginica* of the Linnaean herbarium.

- 3 *Iris Pseudacorus* L. Sp. Pl. 38. 1753 Yellow flag
 In marshes and wet meadows. Naturalized or adventive from Europe.

Essex and Warren counties, *Peck*. Cayuga lake, *Dudley* (36th Rep't N. Y. State Mus. 35. 1884). Near mouth of Salmon river, Oswego county, *Leach* (N. Y. State Mus. Bul. 105: 33. 1906). Round lake, Saratoga county, *Charlotte Boquardus*. Cayuta creek, *Lucy*; and Susquehanna river, *Millsbaugh* (Clute, Fl. Upper Susquehanna 107. 1898). Shortsville, Ontario county, *Cartwright* (Proc. Rochester Acad. 5: 30. 1910).

GEMMINGIA Fabr. Enum. Pl. Hort. Helm. 1759

- Belamcanda* Adans. Fam. Pl. 2: 60. 1763
Pardanthus Ker. in Konig & Sims, Rev. Gen. Pl. 246. 1805

Gemmingia chinensis (L.) Kuntze, Rev. Gen. Pl. 701. 1891
Blackberry lily

Ixia chinensis L. Sp. Pl. 36. 1753

Belamcanda chinensis DC. in Red. Lil. 3: pl. 121. 1807

Along roadsides and in fields and meadows. Frequent in the southern and southeastern parts of the State. Naturalized from Asia.

SISYRINCHIUM L. Sp. Pl. 954. 1753

Bermudiana [Tourn.] Mill. Gard. Dict. 4th abr. ed. 1754

1 **Sisyrinchium albidum** Raf. Atl. Journ. 17. 1832
White blue-eyed grass

S. versicolor Bicknell, Torr. Club Bul. 26: 606. 1899

A species of the middle western states, reported by Bicknell (l.c.) from the vicinity of New York City.

2 **Sisyrinchium angustifolium** Mill. Gard. Dict. ed. 8. 1768
Pointed blue-eyed grass

In fields and on hillsides. Common across the State northward, but rare or local southward to Westchester county and Long Island. Not reported from Staten Island.

3 **Sisyrinchium mucronatum** Michx. Fl. Bor. Am. 2: 33. 1803
Michaux's blue-eyed grass

S. intermedium Bicknell, l.c. 498

In fields and meadows. Frequent across the State, especially southward. Northern range not definitely known, but has been reported or collected from nearly all sections of the State except the higher Adirondacks.

4 **Sisyrinchium arenicola** Bicknell, l.c. 496 Sand blue-eyed grass
In sandy soil on Long Island and Staten Island.

5 **Sisyrinchium graminoides** Bicknell, Torr. Club Bul. 23: 133.
1896 Stout blue-eyed grass

S. anceps S. Wats.; A. Gray, Man. ed. 6, 515. 1890. Not Cav.

S. gramineum Curtis, Bot. Mag. pl. 464. 1789. Not Lam.

In grassy places, in moist or rather dry soil; sometimes in open woods. Common throughout the State, especially northward. Frequent in most of the openings and cleared places of the Adirondack region.

- 6 *Sisyrinchium atlanticum* Bicknell, Torr. Club Bul. 23: 134.
1896 Eastern blue-eyed grass
S. apiculatum Bicknell, l.c. 300

In moist fields, meadows and especially in and along the margins of brackish marshes on Long Island and on Staten Island.

- Family 28 **ORCHIDACEAE** Lindl. Nat. Syst. ed. 2, 336. 1836
Orchid family

CYPRIPEDIUM L. Sp. Pl. 951. 1753

Subgenus **Criosanthes**

- Criosanthes* Raf. Am. Mo. Mag. 2: 268. 1818
Arietinum Beck, Bot. 352. 1833

- 1 *Cypripedium arietinum* R. Br.; Ait. Hort. Kew. ed. 2, 5: 222.
1813 Ram's-head ladies-slipper

- Criosanthes borealis* Raf., l.c.
Arietinum americanum Beck, l.c.
C. arietina House, Torr. Club Bul. 32: 374. 1905

Cold sphagnum bogs and wooded swamps. Local or rare in the northern and central portions of the State.

Near Oneida lake, *Gray*; Oneida county, *Douglas*, *Whaley*; Amsterdam, *Skillman* (Torrey, Fl. N. Y. 2: 258. 1843). Summit lake, Otsego county; Mud lake, Jordanville and formerly along the Rolleboom near the Plattekill, Schenectady county, *Pearson* (Paine, Cat. 140, 190. 1865). Clay swamp, Onondaga county, *Rust* (Torr. Club Bul. 10: 67. 1883). Near Syracuse, *Beauchamp*; Cicero swamp, *House*; Mud lake near Jordanville, *Haberer* (House in Torr. Club Bul. 32: 374. 1905). Mud pond, Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 108. 1896). Hague, Warren county, *Watrous* (N. Y. State Mus. Bul. 122: 132. 1908). Bonaparte swamp, Lewis county, *Eames*, *House*. Douglas, Essex county, *H. M. Denslow*. Near Humaston, Oneida county, *F. B. Hodges*. New Salem, Albany county, *Dr J. A. Sampson*.

Forma *albiflora* House, N. Y. State Mus. Bul. 243-244: 48. 1923, with all parts of the flower white, found near Summit lake, Otsego county, *Gilbert* (22d Rep't N. Y. State Mus. 103. 1869).

Subgenus **Calceolus**

- Calceolus* (Tourn.) Mill. Gard. Dict. 4th Abr. ed. 1754

- 2 *Cypripedium candidum* Willd. Sp. Pl. 4: 142. 1805
Small white lady's-slipper

In bogs and boggy meadows. Rare.

Near Syracuse, *House* (Torreya 3: 50. 1903), station since destroyed. Cooperstown, Otsego county, *Horace Lathrop*; Bergen swamp, Genesee county, *Booth, Fish* (Paine, Cat. Pl. Oneida Co. 139. 1865). Common in Bergen swamp.

3 *Cypripedium parviflorum* Salisb. Trans. Linn. Soc. 1: 77. *pl.* 2. *f.* 2. 1791 Small yellow lady's-slipper

C. flavescens DC.; Redoute, Lil. 1: *pl.* 20. 1802

C. pubescens Sweet, Brit. Flow. Gard. 1: *pl.* 71. 1823

In low woods and swamps. Locally abundant across the State. Rare in the higher Adirondacks. Not reported from Long Island or Staten Island. Common in the deep swamps and bogs of southern Herkimer county northward to Lewis and Jefferson counties and westward to Genesee county.

4 *Cypripedium pubescens* Willd. Sp. Pl. 4: 143. 1805

Large yellow or downy lady's slipper

C. bulbosum Mill. Gard. Dict. ed. 8, No. 2. 1768. Not L. 1753

C. Calceollus Walt. Fl. Car. 222. 1788; Michx. Fl. Bor. Am. 2: 161. 1803. Not L. 1753

C. luteum Ait.; Raf. Med. Fl. 140. *pl.* 30. 1828

C. hirsutum (Miller, misapplied by) Britton & Brown, Illus. Fl. ed. 1, and Britton, Man. ed. 1

In rich or moist soil, chiefly in upland woods and thickets. Frequent or locally abundant across the State, but rare or absent from most of the higher Adirondack region.

It has been suggested that this is merely a variety of the preceding species (Knight, in *Rhodora* 8: 93. 1906). In their typical forms the two are very distinct. Seemingly intermediate forms are not rare, but all such which I have seen have the laterally flattened (the greatest expansion being vertical) lip, which corresponds to *C. flavescens*. *C. flavescens* has formerly been regarded by the writer (Torr. Club Bul. 32: 375. 1905) as distinct. I am now inclined to regard it as an intermediate form or possibly a hybrid between *C. parviflorum* and *C. pubescens*, but have placed the name as a synonym of the former.

5 *Cypripedium reginae* Walt. Fl. Car. 222. 1788

Showy lady's-slipper

C. canadense Michx. Fl. Bor. Am. 2: 261. 1803

C. spectabile Ait. Hort. Kew. 3: 393. 1789.

C. hirsutum (Miller, misapplied by) House, Torr. Club. Bul. 32: 375. 1905

In swamps, bogs and low woods. Infrequent or rare across the northern and western portions of the State, south to Dutchess and Delaware counties. Reported from Staten Island.

Forma **alba** (Ait.) House, N. Y. State Mus. Bul. 243-244: 37. 1923 (*C. album* Ait., l.c.), with white flowers, occurs in several localities with the typical form.

Subgenus **Fissipes**

Fissipes Small, Fl. SE. U. S. 311. 1903

6 **Cypripedium acaule** Ait. Hort. Kew. 3: 303. 1789

Moccasin flower, stemless lady's-slipper

? *C. hirsutum* Mill. Gard. Dict. ed. 8, No. 3. 1768

C. humile Salisb. Trans. Linn. Soc. 1: 77. t. 3, f. 4. 1791

F. acaulis Small, l.c.

In sandy or rocky woods. Common throughout most sections of the State where the soil is not strongly calcareous.

Forma **albiflora** House, l.c. 47, with pure white flowers has been reported from several localities. Forma **lancifolia** House, with narrow or oblong-lanceolate leaves, occurs in Madison county.

ORCHIS (Tourn.) L. Sp. Pl. 939. 1753

Orchis rotundifolia Pursh, Fl. Am. Sept. 588. 1814

Small round-leaved orchis

Habenaria rotundifolia Richards. in Frankl. Narr. 1st Jour. App. 750. 1823

In cold damp mossy woods and swamps. Formerly rare in the northern and central parts of the State.

Near Utica, *Hunt* (Columbia University Herbarium); Warren, Herkimer county, *Hunt* (Herb. Denslow). Mud lake, southern Herkimer county, *Paine* (Cat. 135. 1865). Turin, Lewis county, *R. B. Hough* (38th Rep't N. Y. State Mus. 108. 1885).

This rare orchid was formerly abundant at Mud lake, in southern Herkimer county, but recent careful search indicates that it has apparently been exterminated there. The Turin locality is said to have been destroyed by clearing many years ago, and at the present time the species is not known in New York State.

GALEORCHIS Rydb. in Britton, Man. 292. 1901

Galeorchis spectabilis (L.) Rydb., l.c.

Showy orchis

Orchis spectabilis L. Sp. Pl. 943. 1753

O. humilis Michx. Fl. Bor. Am. 2: 155. 1803

In rich woods. Locally common across the State northward. Less frequent or rare southward to Long Island and Staten Island, and westward to Chatauqua county.

Forma **Gordinierii** House, l.c. 50, with all parts of the flowers white, collected at Schaghticoke, Rensselaer county, by *H. C. Gordinier* (40th Rep't N. Y. State Mus. 73. 1887).

PERULARIA Lindl. Bot. Reg. 20: under pl. 1701. 1835 *

Perularia flava (L.) Farwell, Ann. Rep't Comm. Parks Detroit
11: 54. 1900 Small pale-green orchis

Orchis flava L. Sp. Pl. 942. 1753
O. virescens Muhl.; Willd. Sp. Pl. 4: 37. 1805
O. flava var. *virescens* Greene, Cat. Pl. N. Y. 60. 1814
H. virescens Spreng. Syst. 3: 688. 1826
H. flava A. Gray, Am. Jour. Sci. 38: 308. 1840

In moist soil, usually in woods, meadows or borders of swamps. Frequent across the State northward, except at high altitudes. Rare or local on Long Island and infrequent across the southern part of the State.

Our form of the species is said by Fernald (*Rhodora* 23: 148. 1921) to differ from the typical and more southern form of the species, and he proposes to call the northern form *Habenaria flava* var. *virescens*.

COELOGLOSSUM Hartm. Handb. Scand. Fl. 323. 1820

Coeloglossum bracteatum (Willd.) Hartm. Fl. Ital. 3: 409. 1858
Long-bracted orchis

Orchis bracteata Willd. Sp. Pl. 4: 34. 1805
Habenaria bracteata R. Br.; Ait. Hort. Kew. ed. 2, 5: 192. 1813

In low meadows, woods and borders of wooded swamps. Frequent throughout most sections of the State, south to Westchester county. Not reported from Staten Island, and reported but not definitely known from Long Island.

GYMNADENIOPSIS Rydb.; Britton, Man. 293. 1901

Gymnadeniopsis clavellata (Michx.) Rydb., l.c.
Small green wood orchis

Orchis clavellata Michx. Fl. Bor. Am. 2: 155. 1803
O. tridentata Willd. Sp. Pl. 4: 41. 1805
Habenaria tridentata Hook. Exot. Fl. 2: pl. 81. 1825
H. clavellata Spreng. Syst. 3: 689. 1826

In moist or wet woods and swamps. Frequent or common throughout the northern and central portions of the State. Less common or rare in the western and southern portions of the State.

* The group of species variously designated as *Habenaria* or *Platanthera*, is one of the largest if not actually the largest group of the Orchidaceae. Its subdivision presents many difficulties, as also does any attempt to retain it under one name. *Platanthera* is one of the nomina conservanda of the international rules, but was based by Richard upon *Orchis bifolia* L., a species resembling and somewhat related to *Habenaria macrophylla* (Lysias). *Habenaria* was restricted by Willdenow to a small group of species, and the retention of it to cover the entire group as is done in the seventh edition of Gray's Manual (1908) is technically impossible since Willdenow on the

LIMNORCHIS Rydb. N. Y. Bot. Garden Mem. 1: 104. 1900

1 **Limnorchis hyperborea** (L.) Rydb.; Britton, Man. 294. 1901

Tall leafy green orchis

Orchis hyperborea L. Mant. 121. 1767

O. huronensis Nutt. Gen. 2: 189. 1818

Habenaria hyperborea R. Br.; Ait. Hort. Kew. ed. 2, 5: 193. 1813

L. huronensis Rydb., l. c.

In bogs, wooded swamps and wet woods, often in low marshy meadows. Frequent or common across the northern part of the State. Less abundant westward to Lake Erie, and southward to Tompkins, Chemung, Delaware and Dutchess counties.

A species variable in height, in the length and breadth of the leaves, in the size of the flowers and in the relative length of the lip and spur, characters apparently controlled in some measure at least, by the varying habitat of the species.

Limnorchis major (Lange) Rydb., reported from Yonkers, is probably but a very robust form of *L. hyperborea*. Specimens have been seen in the wooded swamps of central New York which are nearly or quite a meter in height, with leaves 2-5 cm broad and which correspond with the description of *L. major*, but which are connected by innumerable gradations with typical *L. hyperborea*. In the same region, and doubtless elsewhere, are also found all gradations between typical *L. huronensis*, as distinguished by Doctor Rydberg, and typical *L. hyperborea*.

2 x **Limnorchis media** Rydberg; Britton Man. 294. 1901

Intermediate green orchis

Habenaria dilatata var. *media* Ames, Rhodora 10: 70. 1908

In bogs and marshes, in company with the preceding and the next following species, of which it is a hybrid.

Silver Bay, Lake George, *J. F. Kemp*. Jordanville, Herkimer county, *Peck* (N. Y. State Mus. Bul. 67: 20. 1903); *House*, 1918. *Rev. H. S. Smart*, 1918.

3. **Limnorchis dilatata** (Pursh) Rydb. l.c. Tall white bog orchis

Orchis dilatata Pursh, Fl. Am. Sept. 588. 1814

Habenaria dilatata Hook. Exot. Fl. 2: pl. 95. 1825

In bogs, low marshy meadows and wet woods. Frequent throughout northern and central New York, less common southward to the higher Catskills, and westward to Lake Erie and Chautauqua county.

page preceding *Habenaria* published a genus *Bonatea* (*B. speciosa*), which is commonly included in the amplified use of the name *Habenaria*. Willdenow retained in *Orchis* most of the species subsequently transferred to *Habenaria*, which would seem to indicate that he had no intention of making the name *Habenaria* cover the great and diverse aggregate of species subsequently placed there.

The seven genera, *Perularia*, *Coeloglossum*, *Gymnadeniopsis*, *Limnorchis*, *Lysias*, *Lysiella* and *Blepharigolottis*, might well be constituted subgenera of a single genus. As far as the plants of eastern America are concerned however, they are better regarded as distinct genera.

Variable in the width of the leaves and in the shape of the sepals and petals. Var. *linearifolius* Rydb. (Torr. Club Bul. 28: 623. 1901), which is occasional in central and northern New York, is not separable by any constant characters, as all gradations of width of leaves can be found.

LYSIAS Salisb. Trans. Hort. Soc. 1: 288. 1812

1 **Lysias orbiculata** (Pursh) Rydb.; Britton, Man. 294. 1901
Round-leaved orchis

Orchis orbiculata Pursh, Fl. Am. Sept. 588. 1814

Habenaria orbiculata Torrey, Comp. 318. 1826

Platanthera Menziesii Lindl. Orch. Pl. 286. 1835

In rich woods. Infrequent across the State northward. Less common or rare southward to Ulster county and westward to Lake Erie and Chautauqua county.

2 **Lysias macrophylla** (Goldie) House, Muhlenbergia 1: 127
1906 Large round-leaved orchis

Habenaria macrophylla Goldie, Edinb. Phil. Jour. 6: 331. 1822

Platanthera orbiculata Lindl. Orch. Pl. 286. 1835

In rich woods. Infrequent or local from Rensselaer county northward and westward to St Lawrence county, westward to Oswego county and south to Sullivan county. Perhaps of wider distribution in the State.

Sandlake, Peck. Hamilton mountain, Peck. Mountain lake, Fulton county, A. Olsson. Fairfield, Herkimer county, A. Gray. Panther lake, Oswego county; Fourth lake, Herkimer county, House. Pierrepont, St Lawrence county, Mrs. O. P. Phelps. Grahamsville, Sullivan county, Barkley.

3 **Lysias Hookeriana** (Torrey) Rydb.; Britton, Man. 295. 1901
Hooker's orchis

Habenaria orbiculata Goldie, Edinb. Phil. Jour. 6: 331. 1822; Hook. Exot.

Fl. pl. 145. 1825. Not Pursh, 1814

H. Hookeriana Torrey; A. Gray, Ann. Lyc. N. Y. 3: 229. 1836

H. Hookeri Lindl. Gen. & Sp. Orch. 286. 1840

In moist or rather dry woods. Local or locally abundant across the State. Absent from the higher Adirondack region. Not recorded from Long Island or from Staten Island, and not reported from west of Broome county along the southern tier of counties bordering on Pennsylvania.

LYSIELLA Rydb.; Britton, Man. 295. 1901

Lysiella obtusata (Pursh) Rydberg, l.c.
Small northern bog orchis

Orchis obtusata Pursh, Fl. Am. Sept. 588. 1814

Habenaria obtusata Richards. App. Frankl. Jour. 750. 1823

In cold mossy woods, swamps and bogs. Frequent throughout the northern and higher Adirondacks and across the northern counties of the State. Rare southward to Carpenter's pond, Onondaga county (*House*).

BLEPHARIGLOTTIS Raf. Fl. Tell. 2: 38. 1836

1 *Blephariglottis ciliaris* (L.) Rydberg; Britton, Man. 296. 1901
Yellow-fringed orchis

Orchis ciliaris L. Sp. Pl. 939. 1753

Habenaria ciliaris R. Br.; Ait. Hort. Kew. ed. 2, 5: 194. 1813

In low meadows and margins of sandy bogs and swamps. Frequent on Long Island and Staten Island. Rare or local northward across the State from Albany county to Oneida and Monroe counties.

West of Albany, *Beck*. Pine plains of Schenectady, *Pearson*; Junius, Seneca county, *Sartwell*; Greece and Parma, Monroe county, *Bradley* (Paine, Cat. Pl. Oneida Co. 136. 1865). Karner, Albany county, *Peck*. Sylvan Beach, Oneida county, *House*. Manlius Onondaga county, *Wibbe* (31st Rep't N. Y. State Mus. 53. 1879); *Wibbe's* specimen is labelled "North Manlius" which is in Madison county. Baldwinsville, *Beauchamp*. Irondequoit bay, *Holzer* (in state herbarium). Island in Irondequoit bay, *Fuller*; woods north of Ridge road, *Bunker* (Proc. Rochester Acad. 3: 107. 1896).

2 *Blephariglottis Blephariglottis* (Willd.) Rydberg, l.c.
White-fringed orchis

Orchis ciliaris var. *alba* Michx. Fl. Bor. Am. 2: 156. 1803

O. Blephariglottis Willd. Sp. Pl. 4: 9. 1805

Habenaria Blephariglottis Torrey, Comp. 317. 1826

In bogs, swamps and low meadows and borders of sandy bogs. Frequent in most of the open sphagnum bogs across the northern part of the State and in the Adirondacks. Frequent on Long Island, Staten Island and in Rockland county. Not reported from the Catskills. Infrequent westward across the State to Chautauqua county. Not reported from Erie county, but frequent in the bogs of the Ontario lowlands westward to Genesee county.

Var *halopetala* (Lindl.) House, N. Y. State Mus. Bul. 243-244: 45. 1923 (*Platanthera halopetala* Lindl.), a rare variety with narrower petals and the toothing obsolete, the lip less fringed or subentire, occurs at North pond, near Boonville, Oneida county, and was also reported from there by *Paine* in 1865.

- 3 *Blephariglottis lacera* (Michx.) Farwell, Ann. Rep't Mich. Acad. Sci. 2: 42. 1901 Ragged or green-fringed orchis

Orchis lacera Michx. Fl. Bor. Am. 2: 156. 1803

Habenaria lacera R. Br.; Prodr. Fl. Nov. Holl. 1: 312. 1810

Orchis psycodes Muhl.; Willd. Sp. Pl. 4: 39. 1805; also of Bigelow and Pursh, not L.

In swamps, low meadows and wet woods. Frequent or common in the eastern, central and southern parts of the State. Rare in the western counties and rare in the northern part of the State. Absent from most sections of the Adirondacks.

Forma *elongata* (Peck) House, l.c. 15 (*H. lacera* var. *elongata* Peck, 46th Rep't N. Y. State Mus. 49. 1893), with the inflorescence much elongated; flowers rather distant and subtended by large foliaceous bracts. Selkirk, Albany county, Peck.

- 4 *Blephariglottis leucophaea* (Nuttall) Farwell, l.c. Prairie white-fringed orchis

Orchis leucophaea Nutt. Trans. Am. Phil. Soc. (II) 5: 161. 1833-37

Habenaria leucophaea A. Gray, Man. ed. 5, 502. 1857

On moist prairies or in open sunny bogs. Oswego and Onondaga counties westward, chiefly in the Ontario lowlands. Rare.

Fabius, Onondaga county, House (Torr. Club Bul. 32: 376. 1905). Lily marsh, Oswego county, Wibbe (Torr. Club Bul. 6: 192. 1877); Sheldon (state herbarium). Mud pond, Wayne county, Hankenson (28th Rep't N. Y. State Mus. 47. 1876, and in state herbarium).

- 5 *Blephariglottis grandiflora* (Bigel.) Rydberg, l.c. Large or early purple-fringed orchis

Orchis fimbriata Willd. Sp. Pl. 4: 39. 1805. Not Dryand. 1789

O. grandiflora Bigel. Fl. Bost. ed. 2, 321. 1824

Habenaria grandiflora Torrey, Comp. 319. 1826

H. fimbriata A. Gray, Man. ed. 5, 503. 1867; Robinson & Fernald, Gray, Man. ed. 7, 311. 1908. Not R. Br. 1813

B. psycodes grandiflora Schaffner, Cat. Ohio Pl. 161. 1914

In rich woods and wet meadows. Frequent in the Adirondacks. Local or rare southward to Delaware, Chemung and Otsego counties, and westward to Oneida and Oswego counties.

Delaware county, Gilbert; Otsego county, Miss Cooper; northern Herkimer county, Calverly; Fort Bull, Rome, Oneida county (Paine, Cat. Pl. Oneida Co. 136. 1865). Franklin, Delaware county, Hoy; Chemung county, Lucy (Clute, Fl. Upper Susquehanna 106. 1898). Sandlake, Rensselaer county, Peck. Pine lake, Fulton county, House.

6 *Blephariglottis psycodes* (L.) Rydberg, l.c.

Smaller purple-fringed orchis

Orchis psycodes L. Sp. Pl. 943. 1753*O. fimbriata* Ait. Hort. Kew. 3: 297. 1789*Habenaria fimbriata* R. Br. in Ait. Hort. Kew. ed. 2, 5: 194. 1813*H. racemosa* Raf. Ann. Nat. 15. 1820*H. psycodes* Spreng. Syst. 3: 693. 1826

In meadows, swamps and wet woods. Frequent or common throughout most sections of the State. Rare on Long Island.

Forma *albispicata* House, N. Y. State Mus. Bul. 243-244: 19. 1923, with white flowers, is sometimes seen.

x *Blephariglottis Andrewsii* (White) comb. nov.*Habenaria lacera* x *psycodes* Andrews, Rhodora 3: 246. 1901*H. Andrewsii* White

A natural hybrid known from Vermont and Maine, and which may be looked for in this State.

7 *Blephariglottis peramoena* (A. Gray) Rydberg, l.c. 297.

Fringeless purple orchis

Orchis fissa Pursh, Fl. Am. Sept. 589. 1814. Not Willd. 1805*Habenaria peramoena* A. Gray, Am. Jour. Sci. 38: 310. 1840

In moist meadows. A species found chiefly in the region of the Great Lakes. Reported from Collins, Erie county, *Cowell*, and Cassadaga Lake, Chautauqua county, *Day* (Pl. Buffalo 76. 1883).

POGONIA Juss. Gen. Pl. 65. 1789

Subgenus *Eupogonia*1 *Pogonia ophioglossoides* (L.) Ker. in Lindl. Bot. Reg. pl. 148. 1816

Rose Pogonia, snakemouth

Arethusa ophioglossoides L. Sp. Pl. 951. 1753

In low meadows, swamps and bogs. Frequent across the State. Scattered throughout most of the Adirondack region but not reported from North Elba by *Peck*. Rare in the southern tier of counties bordering on Pennsylvania and in the extreme western part of the State.

Forma *albiflora* House, with white flowers, in a bog near Luzerne, Warren county, *House*.

Subgenus *Isotria**Isotria* Raf. Med. Repos. II. 5: 357. 1808*Odonectis* Raf., l.c.

- 2 *Pogonia verticillata* (Willd.) Nutt. Gen. 2: 192. 1818
Whorled pogonia

Arethusa verticillata Willd. Sp. Pl. 4: 81. 1805
A. medeoloides Pursh, Fl. Am. Sept. 591. 1814
Isotria verticillata Raf., l.c.
Odonectis verticillata Raf. l.c.

In moist woods, often in deep mossy wooded borders of swamps and bogs. Frequent across the State south of the Adirondacks. Westward to Broome and Wayne counties, northward to Warren, Saratoga, Lewis and Oswego counties.

- 3 *Pogonia affinis* Austin; Gray, Man. ed. 5, 507. 1867
Smaller whorled pogonia
Isotria affinis Rydberg; Britton, Man. 297. 1901

In moist woods. Very rare. A little known species, sometimes suspected of being an imperfectly developed form of the preceding. Known only from Rockland county, *Smith* (N. Y. State Mus. Bul. 2: 27. 1887). Fort Edward, *Vandenburg* (31st Rep't N. Y. State Mus. 31. 1879).

Subgenus *Triphora*

Triphora Nutt. Gen. 2: 192. 1818

- 4 *Pogonia trianthophora* (Sw.) B.S.P., Prel. Cat. N. Y. 52.
1888 Nodding pogonia

Arethusa trianthophora Sw. Kongl. Vet. Acad. Handl. II, 21: 230. 1800
Triphora pendula Nutt., l.c.
Pogonia pendula Lindl. Bot. Reg. pl. 908. 1825
Triphora trianthophora Rydb.; Britton, Man. 298. 1901

In rich woods. Lake George region, Warren county and in Rensselaer county, westward to Oneida county and Lake Erie, southward to near New York City. Not reported from Long Island or Staten Island. Locally frequent in some sections, chiefly from the southern Catskills westward to Wayne county.

ARETHUSA L. Sp. Pl. 950. 1753

Arethusa bulbosa L., l.c. *Arethusa*, dragon's-mouth, wild pink

In bogs and boggy or turfey meadows. Infrequent but widely distributed throughout the State. Not reported from north of Essex and Lewis counties, but probably locally present throughout the northern tier of counties, and the Adirondack region. Most abundant in open bogs across the middle of the State and southward to Long Island.

CATHEA Salisb. Trans. Hort. Soc. 1: 300. 1812*Helleborine* Kuntze, Rev. Gen. Pl. 665. 1891 (Not Martyn, t. 50. 1736)*Limodorum* Britton & Brown, Illus. Fl. (Not L. or Kuntze)*Calopogon* R. Br. in Ait. Hort. Kew, ed. 2, 5: 204. 1813**Cathea pulchella** (Willd.) Salisb., l.c. *Calopogon*, grass pink*Cymbidium pulchellum* Willd. Sp. Pl. 4: 105. 1805*Calopogon pulchellus* R. Br., l.c.*Calopogon tuberosus* B. S. P. Prel. Cat. N. Y. 52. 1888*Cathea tuberosa* Morong, Torr. Club Bul. 20: 34. 1893*Helleborine tuberosa* Kuntze, l.c.

In bogs and low boggy meadows. Frequent across the State northward, but somewhat rare or local in the southern counties bordering on Pennsylvania.

Forma *albiflora* (Britton) House, with white flowers is occasionally seen. A specimen from Saratoga county with leaves 1.5 cm. wide approaches forma *latifolia* (St John) House (*C. pulchellus* forma *latifolius* St John, Proc. Bost. Soc. Nat. Hist. 36: 69. 1921), which is described as having leaves 1.3 to 2.8 cm. wide.

Forma *linearifolia* House, with very narrow grass-like leaves, 2 to 5 mm. wide, occurs in Oswego county, *Peck, House*.

According to Fernald (*Rhodora* 23: 132. 1921), *Limodorum tuberosum* L. is based upon a plate of Martyn's (1728), which is *Bletia purpurea*, a Bahaman orchid.

SERAPIAS L. Sp. Pl. 949. 1753*Epipactis* Zinn. Cat. Fl. Hort. Goett. 85. 1757*Limodorum* (Ludw. 1737) Kuntze, Rev. Gen. Pl. 671. 1891*Helleborine* Mill. Gard. Dict. 4th Abr. ed. 1754**Serapias Helleborine** L., l.c.

Bastard hellebore

S. viridiflora Hoffm. Deutsch. Fl. 2: 182. 1804*E. latifolia* var. *viridiflora* Irm. Linnaea 16: 451. 1842*E. viridiflora* Reichenb. Fl. Germ. Exs. 134. 1830*E. Helleborine* Crantz, Stirp. Austr. ed. 2, Fasc. 6, 467. 1769

In woods and thickets. Locally abundant. Herkimer county westward to Oswego, Monroe and Erie counties. Apparently naturalized from Europe.

First recorded from near Syracuse by Mrs M. P. Church (Torr. Club Bul. 6: 329. 1879). Now known from numerous localities, in some of them quite common, which adds to the suspicion that the species has been naturalized from Europe, else it would have been found prior to 1879, in a region which has been carefully explored by many botanists.

IBIDIUM Salisb. Trans. Hort. Soc. Lond. 1: 291. 1812

Triorchis (Bauhin) Petiver, Opera Hist. Nat. Spec. (Ed. John Millan) 2: pl. 68. 1764?

Aristotelea Lour. Fl. Cochinch. 522. 1790

Helictonia Ehrh. Beitr. 4: 148. 1789 (nomina usualia)

Gyrostachys Pers. Syn. 2: 511, as subgenus. 1807

Spiranthes L. C. Richard, Mem. Mus. Paris 4: 42. 1818

Helleborine Bernh. Syst. Verz. Erf. 309. 1800. Not Mill.

1 *Ibidium Romanzoffianum* (Cham.) House, Muhlenbergia 1: 129
1906 Hooded ladies'-tresses

Spiranthes Romanzoffiana Cham., Linnaea 3: 32. 1828

G. Romanzoffiana MacM. Met. Minn. 171. 1892

G. stricta Rydb. Mem. N. Y. Bot. Gard. 1: 107. 1900

I. strictum House, Torr. Club Bul. 32: 381. 1905

T. Romanzoffiana Nieuwl. Am. Mid. Nat. 3: 123. 1913

In bogs and boggy meadows. Frequent across the northern part of the State. Less common, local or somewhat rare southward to Columbia, Greene, Tompkins and Tioga counties and westward to Lake Erie and Chautauqua county.

2 *Ibidium plantagineum* (Raf.) House, Torr. Club Bul. 32: 381
1905 Wide-leaved ladies'-tresses

Neottia plantaginea Raf. Am. Mo. Mag. 2: 206. 1818

N. cernua var. *latifolia* Torrey, Comp. Fl. 320. 1826

N. lucida H. H. Eaton, Trans. Jour. Med. 5: 107. 1832

S. plantaginea Torrey, Fl. N. Y. 2: 284. 1843. Not Spreng. or Lindl.

G. latifolia Kuntze, Rev. Gen. Pl. 664. 1891

S. lucida Ames, Orch. 2: 258. 1908

T. plantaginea Nieuwl. l.c. 122

S. latifolia Torrey; Lindl. Gen. & Sp. Orch. 467. 1840

S. aestivalis Oakes, Cat. Vermont Pl. 28, 1853. Not Rich.

In bogs, springy places and on wet rocks. Infrequent or locally common across the State from Essex county to the St Lawrence river and Lake Erie, southward to Dutchess county, the Catskill mountains and to Tioga and Tompkins counties.

3 *Ibidium cernuum* (L.) House, Torr. Club Bul. 32: 381. 1905
Nodding or drooping ladies'-tresses

Ophrys cernua L. Sp. Pl. 946. 1753

S. cernua L. C. Richard, Orch. Ann. 37. 1817

S. odorata Lindl. Gen. & Sp. Orch. 467. 1840

G. cernua Kuntze, Rev. Gen. Pl. 664. 1891

? *I. incurvum* Jennings, Ann. Carnegie Mus. 3: 483. 1906

T. cernua Nieuwl., l.c. 122

Neottia cernua Sw. in Schrad. Neues Jour. 1: 52. 1805

In wet meadows and swamps. Frequent or common throughout most sections of the State, especially northward and westward.

Var. *ochroleucum* (Rydb.) House, N. Y. State Mus. Bul. 243--244: 45. 1923

G. ochroleuca Rydb.; Britton, Man. 300. 1901

Differing from the ordinary form of the species by its greenish or creamy white flowers and longer floral bracts. In woodlands and upland pastures of less acidity than where typical *I. cernuum* occurs (See Wheery, *Rhodora* 23: 127-129. 1921).

Ames (*Rhodora* 23: 80. 1921), describes from New England, a hybrid between *I. cernuum* and *I. gracile*.

4 *Ibidium vernale* (Engelm. & Gray) House, Torr. Club Bul. 32: 381. 1905 Linear-leaved ladies'-tresses

Spiranthes vernalis Engelm. & Gray, Bost. Jour. Nat. Hist. 5: 236. 1845

S. neglecta Ames, *Rhodora* 6: 30. pl. 51. 1904

G. linearis Rydb.; Britton, Man. 300. 1901

T. vernalis House, Am. Mid. Nat. 6: 206. 1920

In dry or moist sandy soil. Infrequent or rare along the coast of Long Island and on Staten Island.

According to Ames (*Rhodora* 23: 79. 1921) this may be a hybrid between *I. cernuum* and *I. gracile*.

5 *Ibidium praecox* (Walt.) House, Muhlenbergia 1: 129. 1906 Grass-leaved ladies'-tresses

Limodorum praecox Walt. Fl. Car. 221. 1788

S. graminea var. *Walteri* A. Gray, Man. ed. 5, 505. 1867

S. praecox A. Gray, Man. ed. 6, 503. 1890

G. praecox Kuntze, Rev. Gen. Pl. 663. 1891

T. praecox Nieuwl., l.c. 123

In grassy places along the coastal plain of Long Island and on Staten Island. The report from Oneida lake (House, *Torreya* 3: 53. 1903), based upon a misidentification.

6 *Ibidium Beckii* (Lindl.) House, Muhlenbergia 1: 128. 1905 Beck's or little ladies'-tresses

Spiranthes tortilis Beck. Bot. 343. 1833. Not Rich.

Spiranthes Beckii Lindl. Gen. & Sp. Orch. 472. 1840

S. simplex A. Gray, Man. ed. 5, 506. 1867. Not Griseb.

G. simplex Kuntze, Rev. Gen. Pl. 664. 1891

S. Grayi Ames, *Rhodora* 6: 44. 1904

T. Grayi Nieuwl., l.c. 123

T. Beckii House, Am. Mid. Nat. 6: 206. 1920

In dry or damp sandy soil. Frequent on Long Island. Locally abundant on Staten Island and northward to Westchester county.

- 7 *Ibidium gracile* (Bigel.) House, Torr. Club Bul. 32: 381. 1905
Slender ladies'-tresses

Neottia tortilis Pursh. Fl. Am. Sept. 589. 1814. Not Sw.

Neottia gracilis Bigel. Fl. Bost. ed. 2, 522. 1824

S. gracilis Beck, Bot. 343. 1833

G. Gracilis Kuntze, Rev. Gen. Pl. 664. 1891

T. gracilis Nieuwl., l.c. 123

In dry, usually sandy fields and open woods. Infrequent or locally abundant across the State from Essex and Rensselaer counties westward to St Lawrence and Jefferson counties, the lowlands of central New York and Lake Ontario. Rare in Erie county and in the southern counties bordering on Pennsylvania. Common on Long Island and Staten Island.

OPHRYS (Tourn.) L. Sp. Pl. 945. 1753

Cardiophyllum Ehrh. Beitr. 4: 148. 1789

Listera R. Br.; Ait. Hort. Kew. ed. 2, 5: 201. 1813

Diphryllum Raf. Med. Repos. (II) 5: 357. 1868

- 1 *Ophrys convallarioides* (Sw.) Wight, Torr. Club Bul. 32: 380
1905 Broad-lipped twayblade

Neottia convallarioides Rich. in Mem. Mus. Paris 4: 59. 1818

Epipactis convallarioides Sw. Kongl. Vet. Acad. Handl. (II) 21: 232. 1800

Listera convallarioides Torrey, Comp. 320. 1826

D. convallarioides Kuntze, Rev. Gen. Pl. 659. 1891

In cold mossy woods and wooded swamps. Northern New York. Rare.

Turin, Lewis county, *Hough* (38th Rep't N. Y. State Mus. 83. 1885). Newport, Herkimer county, *House* (Torr. Club Bul. 32: 380. 1905). Adirondack League Club Plants, p. 52. *Miss A. M. Smith*. Newcomb, Essex county, *House*, 1920.

- 2 *Ophrys cordata* L. Sp. Pl. 946. 1753. Heart-leaved twayblade

Neottia cordata Rich., l.c.

Listera cordata R. Br., l.c.

Diphryllum bifolium Raf., l.c.

D. cordatum Kuntze, l.c.

In moist cold woods and mossy swamps. Infrequent but widely distributed throughout the State. Frequent or common throughout the Adirondack region. Local or rare southward to Staten Island and westward, chiefly in cold cedar swamps, to Lake Erie and Cattaraugus county.

Otsego and Chenango counties are the only records in the Susquehanna basin, and the record for Staten Island rests upon an old collection. In the Hudson valley it is now unknown south of Rensselaer county, nor has it been reported from the Catskills.

3 *Ophrys australis* (Lindl.) House, Torr. Club Bul. 32: 379.
1905 Southern twayblade

Listera australis Lindl. Gen. & Sp. Orch. 456. 1840
D. australe Kuntze, l.c.

In bogs and sphagnum swamps. Locally distributed from St Lawrence and Fulton counties, westward, chiefly on the Ontario lowlands to Madison, Wayne, Oswego and Erie counties.

Canada lake, Fulton county, *C. P. Alexander, A. Olsson*. Pecksport, Madison county, *Edward A. Eames, House*. Fine, St Lawrence county, *Peck* (N. Y. State Mus. Bul. 139: 35. 1910). Lily marsh, Oswego county, *Wibbe* (Torr. Club Bul. 6: 192. 1877). Beaver lake, Onondaga county, *Underwood, Beauchamp, O. E. Pearce* (House in Torr. Club Bul. 32: 378. 1905). Mud pond, Zurich, Wayne county, *House & Killip*. Palermo, Oswego county, *Rowlee* (Torr. Club Bul. 26: 165. 1899). Duck lake, Conquest, Cayuga county and near Victory, *L. Griscom* and party (Rhodora 19: 52. 1917). Erie county, *Edward A. Eames*. (N. Y. State Mus. Bul. 176: 26. 1915; 205-206: 20. 1919).

PERAMIUM Salisb. Trans. Hort. Soc. 1: 301. 1812

Epipactis (Hall. 1742) Boehm. in Ludw. Definit. Gen. Pl. 1760. Not Zinn, 1757

Goodyera R. Br.; Ait. Hort. Kew. ed. 2, 5: 197. 1813

Orchiodes (Trew. 1736) Kuntze, Rev. Gen. Pl. 674. 1891

1 *Peramium secundum* (Raf.) comb. nov.

Lesser rattlesnake plantain

Tussaca secunda Raf. Praec. Decouv. 42. 1814

Neottia repens Pursh, Fl. Am. Sept. 589. 1814. Not Sw.

Goodyera repens var. *ophioides* Fernald, Rhodora 1: 6. 1899

Peramium ophioides Rybd., Britton. Man. 302. 1901

Epipactis repens ophioides A. A. Eaton, Proc. Biol. Soc. Washington 21: 65. 1908

E. ophioides House, in Heller, Catalogue, ed. 3, 85. 1910

In cool moist woods, often in mossy swamps. Frequent throughout the Adirondack region and the northern counties. Less common, rare or local southward to the higher Catskills and westward across the State. Formerly reported as *Goodyera repens* or *Peramium repens*.

2 *Peramium tessellatum* (Lodd.) Heller, Catalogue N. Am. Pl.

ed. 2, 4. 1900

Loddiges's rattlesnake plantain

Goodyera tessellata Lodd. Bot. Cab. 10: pl. 952. 1824

Epipactis tessellata A. A. Eaton, l.c. 66

Orchiodes tessellatum Kuntze, l.c.

Chiefly in coniferous woods. Frequent throughout the northern part of the State. Less common southward to Ulster, Sullivan and Greene counties, and rather rare westward to Seneca, Wayne and Wyoming counties.

A robust specimen of this species from northern New York was mistaken by Peck for *Peramium Menziesii* (Lindl.) Morong, and so reported.

3 *Peramium pubescens* (Willd.) MacM. Met. Minn. 172. 1892
Downy rattlesnake plantain

Neottia pubescens Willd. Sp. Pl. 4: 76. 1805
Satyrion venosum Raf. Med. Repos. (II) 5: 361. 1808
Goodyera pubescens R. Br., l.c. 198
Tussaca reticulata Raf. Praec. Decouv. 43. 1814
Epipactis pubescens A. A. Eaton, l.c. 65. Not Pursh, 1814
E. reticulata House, in Heller, Catalogue, ed. 3, 85. 1910
Orchiodes pubescens Kuntze, l.c.

In dry woods. Locally abundant throughout most sections of the State.

MALAXIS Soland.; Sw. Prodr. 119. 1788

Achroanthos Raf. Med. Repos. (II) 5: 352. 1808
Microstylis Nutt. Gen. 2: 196. 1818

**1 *Malaxis monophylla* (L.) Sw. Kongl. Vet. Acad. Handl. (II)
21: 234. 1800** White adder's mouth

Ophrys monophyllos L. Sp. Pl. 947. 1753
Microstylis monophylla Lindl. Bot. Reg. pl. 1290. 1829
M. brachypoda A. Gray, Ann. Lyc. N. Y. 3: 228. 1836
Achroanthos monophylla Greene, Pittonia 2: 183. 1891

In cold or mossy woods. Frequent throughout the Adirondack region and across the northern part of the State. Less common, rare or local southward to Ulster, Orange, Chenango and Tompkins counties, westward to Genesee and Cattaraugus counties.

2 *Malaxis unifolia* Michx. Fl. Bor. Am. 2: 157. 1803
Green adder's-mouth

Achroanthos unifolia Raf. Med. Repos. (II) 5: 352. 1808
Microstylis ophioglossoides Nutt. Gen. 2: 196. 1818
M. unifolia B. S. P., Prel. Cat. N. Y. 52. 1888

In woods and thickets. Rather frequent on Staten Island and on Long Island, chiefly south of the moraine, northward in the State to Essex and St Lawrence counties, westward to Chenango, Onondaga and Oswego counties.

LIPARIS L. C. Richard, Mem. Mus. Paris 4: 43, 60. 1817

Leptorchis Thouars, Nouv. Bul. Soc. Philom. 1: 317. Hyponym, 1809
Pseudorchis S. F. Gray, Nat. Arr. Br. Pl. 2: 213. 1821
Anistylis Raf. Neogent. 4. 1825

- 1 *Liparis liliifolia* (L.) L. C. Richard; Lindl. Bot. Reg. *pl.* 882. 1825 Large twayblade

Ophrys liliifolia L. Sp. Pl. 946. 1753

Malaxis liliifolia Sw. in Vet. Akad. Nya Handl. Stockh. 21: 235. 1800

Anistylis Convallaria Raf., l.c.

Leptorchis liliifolia Kuntze, Rev. Gen. Pl. 671. 1891

In moist woods and thickets. Rather widely distributed across the State south of the Adirondacks, from Rensselaer and Saratoga counties westward to Oneida and Chautauqua counties and southward to Westchester county. Not common.

- 2 *Liparis Loeselii* (L.) L. C. Richard, Mem. Mus. Paris 4: 60. 1817 Fen orchis, Loesel's twayblade

Ophrys Loeselii L. Sp. Pl. 947. 1753

Malaxis Loeselii Sw., l.c.

Malaxis Correana Barton, Fl. Phila. Prodr. 86. 1815

Anistylis lutea Raf., l.c.

Pseudorchis Loeselii S. F. Gray, l.c.

Liparis Correana Spreng. Syst. 2: 740. 1826

Leptorchis Loeselii MacM. Met. Minn. 173. 1892

In wet woods, springy banks and boggy places. Frequent across the State northward, except above altitudes of 2500 feet, southward to Rensselaer, Albany, Otsego and Watkins counties, westward to Niagara, Erie and Cattaraugus counties.

CYTHEREA Salisb. Trans. Hort. Soc. 1: 301. 1812

Calypso Salisb. Par. Lond. *pl.* 89. 1807. Not Thouars, 1805

Orchidium Sw., Summa Veg. Scand. 32. 1814

- Cytherea bulbosa* (L.) House, Torr. Club Bul. 32: 382. 1905 Calypso

Cypripedium bulbosum L. Sp. Pl. 951. 1753

Calypso borealis Salisb. Par. Lond. *pl.* 89. 1806

Calypso americana R. Br. in Ait. Hort. Kew. ed. 2, 5: 208. 1813

Orchidium arcticum Sw., Summa Veg. Scand. 32. 1814

Orchidium boreale Sw. in Svensk. Bot. t. 518. 1819

Orchidium americanum Steud. Nom. ed. 2, 2: 222. 1840

Calypso bulbosa Oakes, Cat. Vermont Pl. 28. 1842

In cold damp mossy woods, usually under *Arbor Vitae*. Very rare.

Near Rome, Bingham; Jordanville, *Haberer*; Lodi swamp, Onondaga county, House (Torr. Club Bul. 32: 382. 1905). Mud lake, Herkimer county, E. Hunt (House in Torrey's 3: 54. 1903). Lowville, Lewis county, F. B. Hough, and evergreen woods along north side of Black river below Brownville, Jefferson county, C. M. Booth (Paine, Cat. Pl. Oneida Co. 138. 1865).

The locality near Lowville is said to have been exterminated many years ago. That near Syracuse was destroyed by the growth of the city. It was again collected in Bergen swamp, Genesee county, but not within recent years, nor has it been found recently in any other section of the State. With *Orchis rotundifolia*, it may prove to be a recorded species which has disappeared from our flora.

TIPULARIA Nutt. Gen. 2: 195. 1818

Tipularia unifolia (Muhl.) B.S.P. Prel. Cat. N. Y. 51. 1888
Cranefly orchis

Limodorum unifolium Muhl. Cat. 81. 1813
Tipularia discolor Nutt., l.c.
Orchis discolor Pursh, Fl. Am. Sept. 586. 1814

In woods. Staten Island, Long Island and in the western part of the State. Rare.

Near New York City, on Staten Island and at Greenport, Long Island, *Taylor* (Fl. Vic. N. Y. 259. 1915). Orient Point, *Latham*. Monroe county, *Bradley* (Torrey, Fl. N. Y. 2: 272. 1843). Adams Basin, *Baxter* (Proc. Rochester Acad. 3: 105. 1896).

APLECTRUM Nutt. Gen. 2: 197. 1818

Aplectrum hyemale (Muhl.) Torrey, Comp. 322. 1826
Adam-and-Eve, puttyroot

Cymbidium hyemale Muhl.; Willd. Sp. Pl. 4: 107. 1805
Aplectrum spicatum B. S. P., Prel. Cat. N. Y. 51. 1888

In woods and swamps. Locally frequent or rare. Essex county southward to Bronx county and westward across the State, outside of the Adirondacks. Not recorded from the counties of Lewis, Jefferson and St Lawrence lying west of the Adirondacks, nor from the Catskill mountain region or the eastern portion of the Susquehanna watershed.

Forma **pallidum** House (*A. spicatum pallidum* House, Torrey 3: 54. 1903), with the lower lip of the flowers white and without the usual magenta colored spots, occurs in Onondaga county.

CORALLORRHIZA (Haller) Chatelain, Spec. Inaug. 8. 1760

Cladorrhiza Raf. Am. Mo. Mag. 1: 428. 1817
Neottia (L., in part), Kuntze, Rev. Gen. Pl. 674. 1891

1 **Corallorrhiza** *Corallorrhiza* (L.) Karst. Deutsch. Fl. 448. 1882
Early coralroot

Ophrys Corallorrhiza L. Sp. Pl. 945. 1753
Corallorrhiza trifida Chatelain, l.c.
C. Neottia Scop. Fl. Carn. ed. 2, 2: 207. 1772
C. innata R. Br.; Ait. Hort. Kew. ed. 2, 5: 209. 1813
C. verna Nutt. Jour. Acad. Phila. 3: 136. pl. 7. 1823
Neottia Corallorrhiza Kuntze, l.c.

In cold mossy woods and swamps. Frequent or common across the northern part of the State, south to the Catskill mountains of Greene and Ulster counties, and less common or rare southward to Dutchess county and westward to Genesee, Erie and Chautauqua counties.

2 *Corallorrhiza maculata* Raf. Am. Mo. Mag. 2: 119. 1817

Large coralroot

Cladorhiza maculata Raf. Am. Mo. Mag. 1: 428. 1817

Corallorrhiza multiflora Nutt. Jour. Acad. Phila. 3: 138. pl. 7. 1823

Neottia multiflora Kuntze, l.c.

In woods and thickets. Frequent or locally common in most sections of the State. Rare or absent, however, in the pine-barrens of Long Island and rare on the coastal plain.

A form with yellow scapes and yellow flowers was described from Menands, Albany county, by Peck (50th Rep't N. Y. State Mus. 126. 1897).

3 *Corallorrhiza odontorhiza* (Willd.) Nutt. Gen. 2: 197. 1818

Small or late coralroot

Cymbidium odontorhizon Willd. Sp. Pl. 4: 110. 1805

Ophrys Corallorrhiza Michx. Fl. Bor. Am. 2: 158. 1803. Not L.

Neottia odontorhiza Kuntze, l.c.

In mossy woods and swamps. Infrequent or rare from the lower Hudson valley and the southern Catskills westward to Oneida and Livingston counties.

Long Island and Staten Island and up the Hudson valley to West Point, *Taylor* (Fl. Vic. N. Y. 260. 1915). Susquehanna and Chenango valleys, but not reported from west of Broome county, *Clute* (Fl. Upper Susquehanna 103. 1898). Otsego county, *Gilbert*; Ravine near Deerfield creek, *Paine* (Cat. Pl. Oneida county, 139. 1865). Irondequoit bay, *Fish*; Bushnell's Basin, *Rockwell*; Perinton, *Baxter*, Springwater, Livingston county, *Baxter & Laird*; Woolstons, *Woodams* (Proc. Rochester Acad. 3: 106. 1896; 5: 81. 1917). Syracuse, *Underwood* (*Torrey* 3: 54. 1903). Olive, Ulster county, *Denslow*.

4 *Corallorrhiza striata* Lindl. Gen. & Sp. Orch. 534. 1840

Striped coralroot

C. Macraei A. Gray, Man. ed. 2, 453. 1856

Neottia striata Kuntze, l.c.

Troutburg, Monroe county, *Lenon*, *Baxter* (Proc. Rochester Acad. 3: 106. 1896).

Subclass II **DICOTYLEDONES**

Series I **CHORIPETALAE**

Family 1 **SAURURACEAE** Lindl. Nat. Syst. ed. 2, 184. 1836

Lizard's-tail family

SAURURUS L. Sp. Pl. 341. 1753

Saururus cernuus L., l.c. Lizard's-tail

In swamps and shallow water. Frequent across the State from the Hudson valley in Greene and Columbia counties to Jefferson county, westward and southward. Not reported from the Mohawk valley. Common on Long Island, Staten Island and about Oneida lake, the Clyde river, Cayuga marshes and along Lake Ontario.

Family 2 **JUGLANDACEAE** Lindl. Nat. Syst. ed. 2, 180. 1836

Walnut family

JUGLANS L. Sp. Pl. 997. 1753

1 **Juglans nigra** L. l.c. Black walnut

In rich woods. Frequent or common across the State northward to Rensselaer, Washington and Saratoga counties, the Mohawk valley, Lewis and Jefferson counties and westward to Lake Erie. Rare in the Chemung and Tioga regions. Preferring rich soil, the species is much less common as a forest tree than formerly.

2 **Juglans cinerea** L. Sp. Pl. ed. 2, 1415. 1763

Butternut, white walnut

In rich or rocky woods, often along streams. Frequent or common across the State. In the Adirondacks only along streams below 1500 feet altitude.

HICORIA Raf. Med. Repos. (II) 5: 352. 1808 (as *Scoria*)
(*Hicorius* Raf. 1817: *Hicoria* Britton, 1888)

Carya Nutt. Gen. 2: 221. 1818

1 **Hicoria cordiformis** (Wang.) Britton, in Britton & Shafer, N. Am. Trees 228. 1908 Bitternut, swamp hickory

Juglans alba minima Marsh. Arb. Am. 68. 1785

J. cordiformis Wang. Nordam. Holz. 25. pl. 10. f. 25. 1787

J. angustifolia Lam. Encyc. Meth. 4: 504. 1797

J. amara Michx. f. Hist. Arb. Am. 1: 177. t. 18. 1810

Carya amara Nutt., l.c.

Hicorius amara Raf. Fl. Ludov. 109. 1817

Hicoria minima Britton, Torr. Club Bul. 15: 284. 1888

Carya cordiformis Aschers. & Graebn. Syn. Mittle-Eur. Fl. 4: 368. 1910. Not K. Koch, 1869

In moist woods and in swamps. Common in most sections of the State. Rare or absent from most portions of the Adirondacks above 1500 feet altitude and from the higher Catskills, and not reported from the pine-barrens of Long Island.

2 **Hicoria ovata** (Mill.) Britton, Torr. Club Bul. 15: 283. 1888

Shag-bark or shell-bark hickory

Juglans ovata Mill. Gard. Dict. ed. 8, Juglans No. 6. 1768

Carya alba Nutt., l.c.

Juglans squarrosa, Eaton, Man. 288. 1818

Hicorius alba Raf. Alsog. Am. 66. 1838

Carya ovata K. Koch, Dendrol. 1: 598. 1869

Scoria ovata MacM. Met. Minn. 178. 1893

In rich soil. Common throughout most sections of the State outside of the Adirondack region and the higher Catskills. Not reported from the pine-barrens of Long Island.

Var. **fraxinifolia** (Sargent) Ashe, Jour. E. Mitch. Soc. 34: 133. 1918

Carya ovata var. *fraxinifolia* Sarg. Trees & Shrubs 2: 207. 1913

A rather distinct variety, reported from the vicinity of Rochester, Conesus lake, Livingston county, Mount Morris; Macedon, Wayne county; Canandaigua, Ontario county and Indian River, Lewis county.

Var. **Nuttallii** (Sargent) Ashe, l.c. 132

Carya microcarpa Nutt. 1842. Not Nutt. 1818

C. ovata var. *Nuttallii* Sargent, l.c.

A small-fruited variety, occasional in western New York. Specimens from Canandaigua are cited by Sargent.

3 **Hicoria tomentosa** (Lam.) Raf. Med. Repos. (II) 5: 352. 1808 (as *Scoria*) Mockernut, white-heart hickory

Juglans alba L. Sp. Pl. 997. 1753

J. tomentosa Lam. Encycl. 4: 504. 1797

Carya tomentosa Nutt. Gen. 2: 220. 1818

Carya alba K. Koch, Dendrol. 1: 598. 1869

Hicoria alba Britton, Torr. Club Bul. 15: 283. 1888. Not *Hicorius alba* Raf., 1838

In rich soil. Occasional or rare in the Hudson valley in Albany and Rensselaer counties, southward to Long Island and Staten Island. Increasingly abundant westward across the State to Oneida, Jefferson, Monroe and Erie counties, but not reported from the Chenango valley (according to *Clute*).

4 *Hicoria glabra* (Mill.) Britton, Torr. Club Bul. 15: 284. 1888
Pignut hickory

Juglans glabra Mill. Gard. Dict. ed. 8. Juglans No. 5. 1768

J. porcina Michx. f. Hist. Arb. Am. 1: 206. in part. t. 9. f. 3 & 4. 1810

J. porcina ficiformis Pursh, Fl. Am. Sept. 638. 1814

Hicorius porcina Raf. Fl. Ludov. 109. 1817

Carya glabra Sweet, Hort. Brit. 97. 1827

In dry or moist woods. Frequent or common throughout most sections of the State, except the Adirondack region, where it occurs only at lower elevations and in the lower valleys and foothills.

5 *Hicoria ovalis* (Wangenheim) Ashe, l.c. 133
Small-fruited hickory

Juglans ovalis Wangenheim, Nordam. Holz. 24. t. 10. f. 23. 1787

Hicoria microcarpa Britton & Brown, Illus. Fl. 1: 486. f. 1157. 1908; Britton & Shafer, N. Am. Trees 236. f. 193. 1908, as to tree described. Not *Carya microcarpa* Nutt.

Carya ovalis Sargent, Trees & Shrubs 2: 207. 1913

In moist or rich soil. Frequent or locally abundant across the State from Rensselaer and Saratoga counties westward and southward. Variable in regard to leaf and fruit characters.

Var. *megacarpa* (Sargent) Ashe, l.c. 134.

Carya megacarpa Sargent, Trees & Shrubs 2: 201. pl. CLXXX. 1913

The type of this variety was found wild in Seneca Park, Rochester, and also occurs elsewhere about Rochester and near Albany and Ithaca.

Var. *obcordata* (Muhl.) Ashe, l.c. 134

Juglans obcordata Muhl. in Neue Schr. Ges. Nat. Fr. Berlin 3: 392. 1801

Carya microcarpa Nutt. Gen. 2: 221. in part. 1818

Hicoria microcarpa Britton, Torr. Club Bul. 15: 283. 1888

Maplewood Park, Rochester, and also known from several other localities in western New York. Described by Pursh as *Juglans porcina* var. *obcordata*; by Spach, as *Carya porcina*, and by Sargent, as *Hicoria glabra* var. *obcordata*, and as *Carya ovalis* var. *obcordata*.

Var. *odorata* (Marsh.) Ashe, l.c. 134

Juglans alba odorata Marsh, Arb. Am. 68. 1785

Hicoria microcarpa Britton, l.c. in part

Hicoria microcarpa Raf. Alsog. Am. 66, 67. 1838

Carya ovalis var. *odorata* Sargent

A rather frequent variety of the small-fruited hickory, easily distinguished by the strong pungent odor of the husks. Distributed across the State from Rensselaer and Albany counties southward to Long Island and westward to Wyoming and Monroe counties. Doubtless of wider distribution in the State.

Var. *acuta* (Sargent) House, N. Y. State Mus. Bul. 233-234: 13. 1922

Carya porcina var. *acuta* Sargent, Trees & Shrubs 2: 200. 1913

C. ovalis var. *obovalis* Sargent, l.c. 209

C. ovalis var. *obovalis* forma *acuta* Sargent, Bot. Gaz. 66: 247. 1918

Native in the parks of Rochester, and at Mendon, Monroe county.

A recent study of typical trees of the so-called varieties *acuta* and *obovalis* at Rochester indicates that they are not distinct.

6 *Hicoria laciniosa* (Michx. f.) Sargent, Torr. Club Mem. 5: 354. 1894 Big shellbark

Juglans laciniosa Michx. f. Hist. Arb. Am. 1: 199. t. 8. 1810

Carya sulcata Nutt. Gen. 2: 221. 1818

Juglans compressa Muhl., l.c. 390. ?

Carya laciniosa Loud. Hort. Brit. 384. 1830

Hicorius sulcata Raf. Fl. Ludov. 109. 1817

In rich soil or bottomlands, chiefly along streams or near lakes. Wayne county, westward and southward. Reported eastward to Onondaga county.

Hybrid hickories

x *Hicoria Laneyi* (Sargent) House, N. Y. State Mus. Bul. 233-234: 14. 1922 (*H. cordiformis* x *ovata*)

Carya Laneyi Sargent, Trees & Shrubs 2: 196. pl. CLXXVIII. 1913

Riverside cemetery, Rochester, *Brown, Dunbar & Sargent*.

x *Hicora Dunbarii* (Sargent) House, l.c. (*H. laciniosa* x *ovata*)

Carya Dunbari Sargent, Bot. Gaz. 66: 254. 1918

Bottomlands of the Genesee river at Golah, Monroe county, *Dunbar*, type. Mount Morris, Livingston county, *Dunbar*.

Family 3 **MYRICACEAE** Dumort. Anal. Fam. 95. 1829

Bayberry family

MYRICA L. Sp. Pl. 1024. 1753

Section **Gale** (Tourn.)

Gale (Tourn.) Duhamel, Traite des Arb. & Arbustes t. 1. p. 253. 1755; Adans. Fam. Pl. 2: 345. 1763

Cerophora (?) Raf. Alsog. Am. 11. 1838. Not *Cerophora* Raf. 1808

Pimecaria Raf. l.c. 64 (?)

Angeria Tidestrom, Elysium Marianum 37. 1910

1 **Myrica** Gale L., l.c.

Bay bush, sweet gale

M. palustris Lam. Fl. Fr. 2: 236. 1778

M. brabantica S. F. Gray, Nat. Arr. Br. Pl. 2: 249. 1821

Gale uliginosa Spach, Hist. Veg. 2: 259. 1824

G. belgica Dumort. Fl. Belg. 12. 1827

Cerophora angustifolia & *spicans* Raf. Alsog. Am. 2: 12. 1838

In swamps, bogs and along streams and on the shores of ponds and lakes. Common across the State northward, and less frequent southward to Dutchess county, and locally on Long Island. Infrequent westward across the State to Wayne, Genesee and Chautauqua counties.

The form with glabrous or glabrate foliage, said to be widely distributed southward to New Jersey, and which apparently includes most of the New York state material, is described as var. **subglabra** (Chevalier) Fernald (Rhodora 16: 167. 1914).

Section **Cerothamnus**

Morella Small, Fl. SE. U. S. 337. 1903 (Doubtfully of Lour. 1790)
Cerothamnus Tidestrom, l.c. 37

2 *Myrica carolinensis* Mill. Gard. Dict. ed. 8, No. 3. 1768

Northern bayberry

M. heterophylla Raf. Alsog. Am. 9. 1838 (and apparently other so-called species, described in these pages)

M. sessilifolia Raf., l.c. 10

M. cerifera Torrey, Fl. N. Y. 2: 197. 1843. Not L.

Morella caroliniana Small, Fl. SE. U. S. ed. 2, 337. 1913

In sandy swamps or sometimes in dry sandy places. In western New York, chiefly in marly bogs. Common on Long Island and Staten Island, and locally inland in the western part of the State from Madison county west to Genesee county.

Banks of the Hudson, half a mile north of Cold Spring, Putnam county, *Peck* (25th Rep't N. Y. State Mus. 107. 1873). Junius, Seneca county, *Sartwell*; Rochester, *Dewey*; Parma, Monroe county, *Bradley*; Bergen swamp, Genesee county, *Paine* (Cat. Pl. Oneida Co. 127. 1865). Caledonia, Livingston county, *Clinton* (19th Rep't Regents 79. 1866). Adams Basin, Monroe county and in Wayne county, *Baxter* (Proc. Rochester Acad. 3: 101. 1896). Near Buffalo and at Sheldon, Genesee county, *Day* (Cat. Pl. Buffalo 69. 1883). Peterboro, Madison county, *House*.

A hybrid between *M. cerifera* and *M. carolinensis*, which occurs in southern New Jersey, where the two species grow together, is described as *Myrica Macfarlanei* Youngken (Contr. Bot. Lab. Univ. Penn IV²: 348. 1919). Typical *M. cerifera*, however, is not known to occur in New York.

COMPTONIA Banks; Gaertn. Fr. & Sem. 2: 58. *pl.* 90. 1791

Comptonia peregrina (L.) Coulter, Torr. Club Mem. 5: 127.

1894

Sweet fern, fern gale

Liquidambar peregrina L. Sp. Pl. 999. 1753

Myrica asplenifolia L., l.c. 1024

L. asplenifolia L. Sp. Pl. ed. 2, 1418. 1763

C. asplenifolia Gaertn., l.c.

Myrica peregrina Kuntze, Rev. Gen. Pl. 638. 1891

In dry, usually sandy soil, more rarely on rocky soil. Common on Long Island and Staten Island, and locally northward to the northern and central parts of the State. Rather common throughout the Adirondack region and the sandy lowlands of central New York. Less frequent or rare westward to Lake Erie.

Family 4 **SALICACEAE** Lindl. Nat. Syst. ed. 2, 186. 1836

Willow family

POPULUS L. Sp. Pl. 1034. 1753

1 **Populus alba** L., l.c. White or silver-leaf poplar, European aspen

P. major Mill. Gard. Dict. ed. 8, 1768

P. nivea Willd. Berl. Baumz. 227. 1796

In yards, along roadsides and in old fields. Naturalized from Europe and common in cultivation.

A large number of varieties and forms are described in European botanical works, some of which may be looked for in this country in cultivation or as escapes, among them being variety **Bolleana** Masters (Gard. Chron, 18: 556. f. 96. 1882), frequent in cultivation and rare as an escape. See Dippel, Handb. Laubh. 1892, and Ascherson & Graebner, Syn. der Mitteleuropäischen Flora IV: 15-54. 1908.

2 **Populus canescens** (Ait.) J. E. Smith, Fl. Br. 3: 1080. 1804

Silver-leaf poplar

P. alba var. *canescens* Ait. Hort. Kew. 3: 405. 1789

P. alba Willd. Berl. Baumz. 227. 1796. Not L.

P. albo-tremula Krause, Jahrb. Schles. Gesell. 130. 1848

Native of Europe and frequent in cultivation. In some sections tending to become established, especially in and about cities.

3 **Populus balsamifera** L. Sp. Pl. 1034. (excl. syn. Catesby) 1753

Tacamahac, balsam poplar

P. Tacamahacca Mill. Gard. Dict. ed. 8, No. 6. 1768

P. canadensis Moench, Verz. Pl. 81. 1785 (regarded by Rehder, Jour. Arnold Arb. 4: 111. 1923, as a hybrid between *P. balsamifera* L. and *P. nigra* L.)

In moist or rather dry soil, especially along streams and lakes and on ridges and summits. Common throughout the Adirondack region and across the northern part of the State.

Less common southward to Dutchess county, the higher Catskills, and westward to Wyoming and Niagara counties.

The leaves of this tree vary from broadly ovate to deltoid-ovate on new shoots or lanceolate on older branches on the same tree as shown by a series of specimens made by Peck from a single tree. The

leaves are prevailingly narrower however, in the northern part of its range in this State (var. *lanceolata* Marsh.), and along Lake Ontario, and perhaps elsewhere prevailingly broader (var. *latifolia* Loud.)

Professor C. S. Sargent (Jour. Arnold Arb. 1: 63), points out that the *Populus balsamifera* of Linnaeus, is based upon "*P. nigra, folio maximo, gemmis balsamum odoratissimum futentibus*", Catesby (Hist. Nat. Car. 1: 34. t. 34), a southern tree, and a tree which of course cannot be identified with the balsam poplar of the north. Catesby's tree however, represents what Sargent calls a very local and rare form of the cottonwood (See *Populus angulata*, as defined by Tidestrom), with ovate leaves longer than broad, abruptly acuminate at the apex, subcordate or rarely truncate at the base, finely crenately serrate, 12-15 cm. long by 10-12 cm. broad. The flowers and fruit apparently do not differ from those of the common cottonwood, and the angular branchlets, often considered a specific character, may or may not be of importance. This form of the cottonwood is rare in New York, but is known from Lake Champlain westward and southward. It has been variously designated as:

P. carolinensis Moench, Verz. Pl. 81. 1785

P. monilifera Ait. Hort. Kew. 3: 406. 1789

P. angulata Ait., l.c. 407

P. angulata Michx. f. Hist. Arb. Am. 3: pl. 12. 1813; Schneider. Ill. Handb. 1: 9. f. 1, O-p, 1904; Tidestrom, Rhodora 16: 208. f. 11-13. 1914

P. angulata var. *missouriensis* Henry, in Elwes & Henry, Trees of Gr. Br. 7: 1811. 1913

While Sargent excludes "*P. angulata* Ait." as a name for this tree, Tidestrom does not.

The reference of Catesby which Sargent picks as the type of *P. balsamifera* L., is the third citation given by Linnaeus, and although it is the first citation associable with a plate, the first citation from the Hortus Cliffortianus, is positively referable to our northern balsam poplar, it is the tree known to Linnaeus, and the fact that he erroneously referred Catesby's plate to this species is quite parallel to numberless other such mistakes in the "Species Plantarum." There seems to be no good reason to reject the well known Linnaean name for our northern poplar and substitute for it another, or to connect the name "*balsamifera*" with a tree of such doubtful specific value as possessed by *P. angulata* Michx. f.

P. Jackii Sarg. Trees & Shrubs 2: 212. 1913, described from Quebec, is regarded as a hybrid between *P. balsamifera* and *P. deltoides*.

4 *Populus candicans* Ait. Hort. Kew. 3: 406. 1789

Balm of Gilead

Roadsides and along streams and in old fields. Sometimes regarded as a native of the western states or Canada and supposed to be

naturalized in this State. Appearing however as if indigenous along the shores of Lake Ontario. Common in cultivation.

Farwell (*Rhodora* 21: 101. 1919), decides that this species is the *P. Tacamahacca* of Miller, and makes the common indigenous balsam poplar of the north a variety of it under the name of *P. tacamahacca* var. *lanceolata* (Marsh.) Farwell. This indicates the confusion and difference of opinion which results from the attempt by Sargent to displace the well known names for these species by names of doubtful application.

5 *Populus heterophylla* L. Sp. Pl. 1034. 1753

Swamp or downy poplar

In swamps on Long Island and Staten Island and locally northward to the Hudson highlands. Infrequent or rare.

6 *Populus grandidentata* Michx. Fl. Bor. Am. 2: 243. 1803

Large-toothed aspen

P. trepida Willd. Sp. Pl. 4: 803. 1806

In rich woods, cut-over lands and forest openings. Common or frequent throughout most sections of the State.

Tidestrom (*Rhodora* 16: 205. 1914), describes three forms of this tree, based upon what seems somewhat inconstant leaf characters, viz: f. **septentrionalis** (Canada and New England), f. **meridionalis** (New England and southward) and f. **coelestina** (mountains of Maryland).

7 *Populus tremuloides* Michx. l.c. American or quaking aspen

P. trepida Pursh, Fl. Am. Sept. 618. 1814. Not Willd

P. tremuliformis Emerson, Trees 243. 1846

P. tremula Marsh. Arb. Am. 107. 1785. Not L.

In dry or moist, usually poor soil. Common throughout most sections of the State, but infrequent on Long Island and rare in the pine-barren areas.

Tidestrom has described two forms of this tree, viz: f. **Davisiana** (Am. Mid. Nat. 2: 33. 1911), and f. **reniformis** (*Rhodora* 16: 206. 1914).

This tree was quite fully described long before Michaux's publication, by C. F. Ludwig (Neue Wilde Baumz. 35. 1783). In Darmstadt, Germany, I was able to consult this rare publication, and it appears that the plants described were sent to Germany from the German colony at Athens on the Hudson river, in this State, and the species was designated as **Populus athenensis**. The date of the publication is uncertain, but is supposed to be about 1783.

8 *Populus nigra* L. Sp. Pl. 1034. 1753

Black poplar

P. canadensis Fouger, in Mem. Agric. Par. 94. 1786

P. hudsonica Michx. f. Silv. 2: 114. pl. 96. f. 1. 1810

P. betulacfolia Pursh, Fl. Am. Sept. 619. 1814

P. nigra var. *betulacfolia* Torrey, Fl. N. Y. 2: 216. 1843

Usually in moist soil. Frequent or common in many places and especially common in the valley of the Hudson river and along tributary streams, where it has been naturalized from Europe in early colonial times.

In general appearance slightly different from *P. nigra* of more recent introduction or from nursery grown stock, which is common in cultivation throughout the State and which shows an almost equal tendency to become established.

9 *Populus italica* (DuRoi) Moench, Baume Weiss. 79. 1785
Lombardy poplar

P. nigra italica DuRoi, Harbk. 2: 141. 1772
P. dilatata Ait. Hort. Kew. 3: 416. 1789
P. pyramidata Moench, Meth. 339. 1794
P. fastigiata Poir. in Lam. Dict. 5: 235. 1804

Originally native of western Asia, but apparently introduced centuries ago into Europe from whence to America during colonial and subsequent times. Freely spreading and in some localities seemingly naturalized.

10 *Populus deltoides* Marsh. Arb. Am. 106, 107. 1785.*
Cottonwood, Carolina poplar, necklace poplar

P. nigra β, *virginiana* Castilioni, Viag. negli Stati Uniti 2: 374. 1790
P. canadensis Michx. f. Hist. Arb. 3: 302. f. 12. 1813
P. balsamifera var. *virginiana* Sargent, Jour. Arnold Arb. 1: 63. 1919

In moist soil, especially along streams and lakes. Frequent or locally abundant across the State from Lake Champlain west to Jefferson county (outside of the Adirondacks), Lake Ontario and

* Tidestrom (Rhodora 16: 208-209. 1914) recognizes three distinct species of cottonwoods, as indicated by the following synopsis:

Leaves of a cordate type.

Populus virginiana Fouger. Normal leaves (excl. petiole) 8-10 cm long and nearly as broad, ciliolate; the base varying from nearly truncate to cordate; rootshoot leaves larger; stamens 30-50; anthers yellow (reddish at first).

Leaves of a deltoid or ovate type.

Leaves predominately deltoid

Populus deltoides Marsh. Normal leaves (excl. petiole) 8-10 cm long and nearly as broad; rootshoot leaves larger, 12-15 cm long and nearly as broad; stamens 30-50; anthers dark red.

Leaves predominately ovate.

Populus angulata Ait. and Michx. f. Normal leaves (excl. petiole) 8-10 cm long, nearly as broad; the base varying from rounded to nearly truncate; rootshoot leaves 12-18 cm long, 12-15 cm broad, the base rounded; flowers unknown. The young branches are of an olive-brown color, 5-winged, with scattered, oblong, 1 mm long, white lenticels. There is another type of leaves present on the young growth which I have not observed in the other species. In the latter, the serrations are much finer.

The first of these is unknown in New York. The second is our commonest cottonwood. The third is the tree to which Sargent (see note under *P. balsamifera*), would apply the name *P. balsamifera* Linn.

Lake Erie. Increasingly common southward and westward, especially along the larger streams and river valleys.

Many forms of the Asiatic species, or perhaps hybrids of *P. laurifolia* Ledeb., and *P. suaveolens* Fisher, with the American *P. balsamifera*, are cultivated in western Europe and have been introduced into America to some extent. One of them under the name of *P. Certinensis*, has shown remarkable power to resist cold and drought, and is therefore commonly planted in the far Northwest.

Trees of nursery origin (*P. Eugenei* Dode, probably originally from Europe, cf. Sargent, Trees and Shrubs 2: 212. 1913) also show apparent indications of being hybrids between *P. nigra* and some form of *P. deltoides*, and where *P. nigra* has long been naturalized as in this State, natural hybrids with *P. deltoides*, are apt to be found.

SALIX (Tourn.) L. Sp. Pl. 1015. 1753

1 *Salix nigra* Marsh. Arb. Am. 139. 1785

Swamp or black willow

S. pentandra Walt. Fl. Car. 243. 1788. Not L.

S. caroliniana Michx. Fl. Bor. Am. 2: 226. 1803

S. ligustrina Michx. f. Hist. Arb. Am. 3: 326. t. 5. f. 2. 1813

S. falcata Pursh, Fl. Am. Sept. 614. 1814

S. Purshiana Spreng. Syst. 3: 608. 1826

Along streams and lakes. Common or frequent. Rarely found above 2000 feet altitude in the Adirondacks. Said to be rare or introduced in the pine-barrens of Long Island.

The common form eastward is sometimes distinguished as var. *falcata* (Pursh) Torrey (Fl. N. Y. 2: 209. 1843).

2 *Salix amygdaloides* Anders. Ofv. Handl. Vet. Akad. 114. 1858

Peach-leaved willow

On lakes and river shores. Frequent throughout the basin of the St Lawrence river.

Lake Bonaparte, *Hough* (N. Y. State Mus. Bul. 94: 42. 1905). Onondaga county, *Goodrich*. Monroe county, common (Proc. Rochester Acad. 3: 103. 1896). Cayuga lake, Cayuga marshes, etc. *Dudley* 41st Rep't N. Y. State Mus. 58. 1888).

Hybridizes with *S. nigra*.

3 *Salix pentandra* L. Sp. Pl. 1016. 1753 Bay-leaved willow

Frequent in cultivation, and rarely escaped or established in some localities.

4 *Salix lucida* Muhl. Neue Schrift. Ges. Nat. Fr. Berlin 4: 239. pl. 6. f. 7. 1803 Shining or glossy willow

In swamps and along streams and lakes. Common in most sections of the State, but less frequent in the southern counties and rare on

Long Island and Staten Island. Var. **angustifolia** Anders., Lake Champlain, *Peck*. Var. **intonsa** Fernald, Keene, Essex county, *Peck*.

5 **Salix serissima** (Bailey) Fernald, *Rhodora* 6: 6. 1903
Autumn willow

S. lucida serissima Bailey; *Geol. Surv. Minn. Bul.* 3: 19. 1887

In bogs and swamps, frequent northward across the State, south to Tompkins county and westward to Genesee county.

North Elba and Lake Bonaparte, *Peck* (N. Y. State Mus. Bul. 94: 34. 1905). Oneida, Madison county, *House*. Lisbon, St Lawrence county, *Phelps*. Lake Placid and Fulton Chain, *Peck* (N. Y. State Mus. Bul. 105: 35. 1906; 122: 135. 1908). Round marshes, McLean, *Dudley*. Bergen swamp, Genesee county and Spencerport, *Baxter* (*Proc. Rochester Acad.* 5: 29. 82. 1910, 1917). Buffalo, *G. W. Clinton*.

6 **Salix fragilis** L. *Sp. Pl.* 1017. 1753
Crack willow, brittle or snap willow

Native of Europe and well established in the eastern part of the State and locally westward.

7 **Salix interior** Rowlee, *Torr. Club Bul.* 27: 253. 1900
River bank willow

S. longifolia Muhl., l.c. 238. *pl.* 6. f. 6. Not Lam. 1778
S. linearifolia Rydberg; Britton, *Man.* 316. 1901

Along streams and lakes. Clinton county and the St Lawrence river region westward along the rivers and lakes of central New York and the Ontario lowlands to Lake Erie, and locally southward into Pennsylvania. The var. **Wheeleri** Rowlee, is reported from Cayuga lake.

8 **Salix alba** L. *Sp. Pl.* 1021. 1753 White or Common willow
S. vitellina L., *Sp. Pl. ed.* 2, 1442. 1763

In moist soil, especially along streams. Frequent or common. Naturalized from Europe in early colonial times and now found in nearly all of the thickly populated sections of the State. **S. alba x nigra** Bebb. (*Gard. & For.* 8: 432. f. 58. 1895. *C. Hankensonii* Dode, *Bul. Soc. Bot. Franc.* 60: 655. f. D. 1909), is recorded from Wayne county.

9 **Salix babylonica** L. *Sp. Pl.* 1017. 1753 Weeping willow

Native of Asia. Widely cultivated and sometimes spreading and tending to become naturalized.

- 10 *Salix pyrifolia* Anders. Vet. Acad. Handl. 6¹: 162. 1867
Balsam willow
S. cordata var. *balsamifera* Hook. Fl. Bor. Am. 2: 149. 1839
S. balsamifera Barratt; Hook. l.c. as synonym; Bebb, Bot. Gaz. 4: 190. 1879

In swamps and along the margins of lakes and ponds. Infrequent across the northern part of the State.

South end of Lake Placid, and Mirror lake, Essex county, *Peck* (N. Y. State Mus. Bul. 28: 124. 1899.) Bonaparte swamp, Lewis county, *House*.

- 11 *Salix glaucophylla* Bebb, in Gray, Man. ed. 6, 485. 1889
Broad-leaved willow
In sand along the shore of Lake Ontario. Rare.

- 12 *Salix cordata* Muhl. Neue Schrift. Ges. Nat. Fr. Berlin 4: 236.
pl. 6. f. 3. 1803
Heart-leaved willow

S. angustata Pursh, Fl. Am. Sept. 613. 1814
S. cordata angustata Anders. l.c. 159
S. missouriensis Bebb, Gard. & For. 8: 373. 1895
S. acutidens Rydberg; Britton, Man. 315. 1901
S. rigida Muhl.; Torrey, Fl. N. Y. 2: 212. 1843
S. Torreyana Barratt, Salic. Am. No. 29

In wet soil. Common throughout the State, but rare in the pine-barrens of Long Island and the higher Adirondacks. Apparently hybridizes with *S. sericea* and other species, producing numerous perplexing forms.

Salix myricoides Muhl., l.c. 235 *pl. 6. f. 2*; Torrey, Fl. N. Y. 2: 207. 1843 (*S. cordata* var. *myricoides* Carey), is regarded as a hybrid between *S. cordata* and *S. sericea*, and is rather frequent.

Hybrids are described with *S. Bebbiana*; *S. discolor*; *S. petiolaris*; *S. sericea* (= *S. Bebbii* Gandoger); *S. lucida*; *S. pedicellaris*; *S. petiolaris*, and *S. incana* Schrank (Dudley, Bul. Cornell Univ. 2: 90. 1886).

- 13 *Salix syrticola* Fernald, Rhodora, 9: 225. 1907
Furry willow
S. adenophylla Bebb, The Lens 2: 249. 1873; Britton & Brown, Illus. Fl. ed. 2, 1: 597. 1913. Not Hook. 1839

Sandy beaches along Lake Ontario. Rare. Woodville, Jefferson county, *House*.

- 14 *Salix purpurea* L. Sp. Pl. 1017. 1753
Purple willow
Sparingly escaped from cultivation across the State south of the Adirondacks. Native of Europe.

15 **Salix viminalis** L. Sp. Pl. 1021. 1753

Osier or basket willow

Cultivated for wicker-ware and occasionally escaped and spreading into wet places, especially in Onondaga county and locally elsewhere. Native of Europe and Asia.

16 **Salix candida** Fluegge; Willd. Sp. Pl. 4: 708. 1805

Hoary or sage willow

S. incana Michx. Fl. Bor. Am. 2: 225. 1803. Not Schrank

In bogs and swamps and on wet shores. Frequent throughout the northern, central and western parts of the State, south to Dutchess county, and reported from Westchester county and Staten Island. Hybrids with *S. petiolaris* and *S. cordata*, have been described (cf. Sargent, Gard. Chron. N. S. 10: 818. 1878, & *S. Clarkei* Bebb.; Rowlee & Wiegand, Torr. Club Bul. 23: 196. 1896.)

17 **Salix sericea** Marsh. Arb. Am. 140. 1785

Silky willow

S. grisea Willd. Sp. Pl. 4: 699. 1805

S. petiolaris var. *grisea* Torrey, Fl. N. Y. 2: 207. 1843

In swamps and along streams and lakes. Frequent in the northern part of the State. Less common southward to Rensselaer, Ulster, and Tioga counties and west to Lake Erie.

18 **Salix subsericea** (Anders.) Schneider, Handb. Laubh. 1: 65.

1904

S. petiolaris var. *subsericea* Anders. in DC. Prodr. 16²: 234. 1864

S. sericea subsericea Rydb. in Britton, Man. 318. 1901

According to Forbes (Rhodora 11: 10-12. 1909), the range of this extends "westward to southern New York." This has been regarded both as a hybrid between *S. sericea* and *S. petiolaris*, and as a variety of each. Schneider (Jour. Arnold Arb. 3: 84. 1922) regards it as a hybrid of the two species mentioned, and the name is invalidated by *S. subsericea* Roell. 1859.

19 **Salix Caprea** L. Sp. Pl. 1020. 1753

Reported as established at Orient, Long Island, and at Rochester. Native of Europe.

20 **Salix petiolaris** J. E. Smith, Trans. Linn. Soc. 6: 122. 1802

Slender willow

S. gracilis Anders. Proc. Am. Acad. 4: 67. 1858

In swamps and along streams. Frequent across the State south to Dutchess and Orange counties in the Hudson valley. Infrequent westward to Lake Erie.

21 *Salix Bebbiana* Sarg. Gard. & For. 8: 463. 1895

Beaked, livid or Bebb's willow

S. rostrata Richards. Frankl. Jour. App. 753. 1823. Not Thuill. 1799

In boggy or springy places, sometimes in rather dry soil or along streams and shores. Common northward and frequent or occasional southward to Long Island and westward across the State.

22 *Salix discolor* Muhl. Neue Schrift. Ges. Nat. Fr. Berlin 4: 234. pl. 6. f. 1. 1803

Pussy, glaucous or silver willow

S. eriocephala Michx. Fl. Bor. Am. 2: 225. 1803*S. prinoides* Pursh, Fl. Am. Sept. 613. 1814*S. laurentiana* Fernald, Rhodora 9: 221. 1907

In swamps or on moist hillsides, often along streams and shores. Variable in leaf-form and degree of pubescence; the most marked varieties being var. *eriocephala* (Michx.) Anders., and var. *prinoides* (Pursh) Anders., the latter including many narrow-leaved forms of which some are probably hybrids with *S. cordata*.

Salix squamata Rydberg, reported from near New York City by Taylor (Fl. Vic. N. Y. 265. 1915), is closely related to and probably a form of this species.

Hybrids are described with *S. humilis*, *S. pyrifolia* and *S. cordata*.

23 *Salix humilis* Marsh. Arb. Am. 140. 1785

Prairie willow

S. conifera Muhl., l.c. pl. 6. f. 9. Not Wang.*S. Muhlenbergii* Barratt; Torrey, Fl. N. Y. 2: 205. 1843

In dry, often sandy soil. Frequent or common in the St Lawrence basin, and southward to Tioga and Chautauqua counties. Rare and local eastward and southward in the eastern portion of the State. A hybrid with *S. discolor* is occasionally found, and hybrids with *S. petiolaris* and *sericea* have been described.

24 *Salix tristis* Ait. Hort. Kew. 3: 393. 1789

Dwarf gray or sage willow

S. alpina Walt. Fl. Car. 243. 1788*S. longirostris* Michx. Fl. Bor. Am. 2: 226. 1803

Sandy plains or on the borders of hillside thickets, chiefly near the coast. Frequent on Long Island and Staten Island.

25 *Salix uva-ursi* Pursh, Fl. Am. Sept. 610. 1814

Bearberry willow

S. Cutleri Tuckerm. Am. Jour. Sci. 45: 36. 1843; Torr. Fl. N. Y. 2: 213. 1843

On the alpine summits of the higher Adirondacks. Rare.

Mount Marcy and Whiteface, *Hall* (Torrey, l.c.). Mount McIntyre and Mount Wright, *Peck* (N. Y. State Mus. Bul. 28: 124. 1899).

26 *Salix pedicellaris* Pursh, Fl. Am. Sept. 611. 1814

Bog willow

S. myrtilloides Tuckerm. Am. Jour. Sci. 45: 34. 1843. Not L.

In bogs. Frequent in the Adirondack region and across the northern part of the State. Rare or local southward to Dutchess, Ulster and Otsego counties, and westward to Seneca, Wayne, Monroe and Erie counties.

Var. *hypoglauca* Fernald (Rhodora 11: 161. 1909), is reported from St Lawrence, Franklin and Seneca counties, and is the common form of the species northward, but not always clearly distinguished from the type. In Rhodora 16: 109. 1914 is described a hybrid with *S. tristis*.

27 *Salix herbacea* L. Sp. Pl. 1018. 1753

Dwarf willow

An arctic-alpine species, found in this State only on the summit of Mount McIntyre, Essex county, *House*.

Family 5 **CORYLACEAE** Mirbel, Elem. 2: 296. 1815

BETULACEAE Agardh. Aphor. 208. 1825

Birch family

CARPINUS (Tourn.) L. Sp. Pl. 998. 1753

Carpinus caroliniana Walt. Fl. Car. 236. 1788

American hornbeam, blue beech, water beech

C. americana Michx. Fl. Bor. Am. 2: 210. 1803

C. Betulus virginiana Marsh. Arb. Am. 25. 1785

In moist woods and along streams. Frequent or common across the State outside of the higher Adirondacks and largely absent from the coastal plain of Long Island.

OSTRYA (Micheli) Scop. Fl. Carn. 414. 1760

Ostrya virginiana (Mill.) K. Koch, Dendr. 2²: 6. 1873

Hop hornbeam, ironwood

Carpinus virginiana Mill. Gard. Dict. ed. 8, 1768

C. virginica Muench. Hausv. 5: 120. 1770

C. Ostrya americana Michx. Fl. Bor. Am. 2: 202. 1803

C. Ostrya Marsh. Arb. Am. 25. 1785. Not L.

Ostrya virginica Willd. Sp. Pl. 4: 469. 1805

In dry or rich woodlands and along streams or shores. Common throughout most sections of the State. Rare in the higher Adirondacks as well as on Long Island and Staten Island.

Var. *glandulosa* Sargent (Bot. Gaz. 67: 216. 1919) with glandular hairs on the branchlets, petioles and peduncles, occurs in western New York, but is scarcely of varietal rank.

CORYLUS (Tourn.) L. Sp. Pl. 998. 17531 **Corylus americana** Walt. Fl. Car. 236. 1788

Hazelnut, filbert

C. humilis Willd. Enum. Hort. Berol. 983. 1809

In moist or dry, often sandy thickets. Frequent or locally abundant across the State south of the Adirondack region. Rare in the pine-barrens of Long Island and not common in the western counties of the State. Wiegand (Rhodora 11: 107. 1909), indicates characters with which to distinguish this species from the next in winter and spring condition before the leaves appear.

2 **Corylus cornuta** Marsh. Arb. Am. 37. 1785 Beaked hazelnut*C. rostrata* Ait. Hort. Kew. 3: 364. 1789

In thickets and thin woods. Common throughout the northern part of the State. Less frequent south of the Mohawk valley and southward on the highlands of the Hudson valley, the Catskill mountains, Chenango and Tioga counties and rare westward to Lake Erie. Apparently absent from the Ontario lowlands.

BETULA (Tourn.) L. Sp. Pl. 982. 17531 **Betula alba** L. Sp. Pl. 982. 1753 European white birch*B. pendula* Roth, Tent. Fl. Germ. 1: 405. 1788*B. verrucosa* Ehrh. Beitr. 5: 161. 1789

Common in cultivation and reported as established at Rochester and in a few other localities.

2 **Betula coerulea** Blanchard, Betula 1: 1. 1904

Rocky woodlands and upland slopes. Sandlake, Peck.

In foliage *B. caerulea* is a good combination of *B. populifolia* and *B. caeruleagrandis*; in fruiting aments much closer to *B. populifolia*, having short, horizontally divergent and puberulent scales. Of similar range to *B. caeruleagrandis*, and to be looked for in the region adjacent to Vermont.

Betula caeruleagrandis Blanchard, Betula 1: No. 1, May 7, 1904 (*B. caerulea* var. *grandis* Blanchard; *B. caerulea* var. *Blanchardii* Sarg. Man. Trees, 202 f. 168 A. 1905; *B. pendula* Robinson & Fernald, Gray, Man. ed. 7, 335. 1908).

Branchlets and leaves strictly glabrous from the first; leaves very similar in shape and size to those of *B. populifolia*, but with a lustrous blue-green upper surface. Fruiting aments thicker and resembling those of *B. papyrifera*, their scales glabrous, except for the ciliated margins.

Nova Scotia to Quebec, Maine and Vermont (Fernald, Rhodora 24: 171. 1922). To be looked for in Washington and Rensselaer counties. What is apparently this species, is reported from Glenmont, Albany county (N. Y. State Mus. Bul. 243-244: 15. 1923).

3 *Betula populifolia* Marsh. Arb. Am. 19. 1785

Gray birch, American white birch

B. lenta DuRoi, Harbk. 1: 92. 1771. Not L.*B. excelsa canadensis* Wang. Nordam. Holz. 86. 1787*B. alba* var. *populifolia* Spach, Ann. Sci. Nat. II. 15: 187. 1841

In moist or dry soil, often in sandy or rocky places. Common in the eastern and central portions of the State and throughout most of the Adirondack region at lower elevations, and the St Lawrence basin. Rare in the northern Adirondacks (not reported from North Elba by Peck). Not reported from the Chenango and Chemung valleys by Clute. Common in the Ontario lowlands, but rare in the highlands of central and western New York.

4 *Betula papyrifera* Marsh. Arb. Am. 19. 1785

Paper or canoe birch

B. lenta Wang. Nordam. Holz. 45. 1787. Not L.*B. papyracea* Ait. Hort. Kew. 3: 337. 1789*B. alba* var. *papyrifera* Spach, l.c.*B. latifolia* Tausch, Flora 11: 751. 1838

In moist stony or sandy soil. Common throughout the Adirondack region and the northern counties of the State, where it ascends to higher elevations than any other deciduous-leaved tree. Less common southward to Dutchess county and the Catskill mountains, Delaware and Broome counties and locally westward to Lake Erie. Reported from Wading River, Long Island.

At high elevations reduced to the so-called var. **minor** (Tuckerm.) Wats. & Coult., in Gray, Man. ed. 6, 472. 1889 (*B. papyracea* var. *minor* Tuckerm, Am. Jour. Sci. 45: 31. 1843; *B. alba* var. *minor* Fernald l.c. IV. 14: 179. 1902). On and near the open summits of Mount Marcy, Mount Clinton, Mount McIntyre, Mount Wright, Haystack, Indian Pass and other exposed summits.

Var. **cordifolia** (Regal) Fernald, Rhodora 3: 173. 1901.—
H. Winkl. Betul. in Pflanzenreich IV: 61. 84. 1904.

B. cordifolia Regel, Nouv. Mem. Soc. Nat. Mosc. 18: 86. t. 12. f. 29-36. 1861*B. alba* subsp. *papyrifera*, *B. cordifolia* Regel, in DC. Prodr. 16²: 166. 1864*B. papyracea* var. *cordifolia* Dippel, Handb. Laubh. 2: 177. 1892*B. alba* var. *cordifolia* Fernald, Am. Jour. Sci. IV. 14: 177. 1902

In moist stony or rocky places and on open slopes. Frequent across the northern Adirondacks. By some authorities treated as a distinct species, but too many intermediate forms occur. This species is said to be rather closely related to *B. pubescens* Ehrh. of Europe.

Sargent (Gard. & For. 8: 355. f. 50. 1895), describes apparent hybrids between *B. papyrifera* and *B. populifolia*, from northern and eastern New England.

- 5 *Betula nigra* L. Sp. Pl. 982. 1753 River birch, red birch
B. lanulosa Michx. Fl. Bor. Am. 2: 181. 1803
B. rubra Michx. f. Hist. Arb. Am. 2: 142. t. 3. 1812

Along streams and lakes. Infrequent in the lower Hudson valley northward to Saugerties. Occasional on Staten Island. Reported from but not recently collected on Long Island. Along Fish creek, Oneida county, *Paine* (Cat. Pl. Oneida Co. 127. 1865) and more recently collected there, *House*. *Paine* also reports it from Deerfield creek near Utica.

- 6 *Betula lenta* L. Sp. Pl. 983. 1753 Cherry, black or sweet birch
B. nigra DuRoi, Obs. 30. 1771. Not L.
B. carpinifolia Ehrh. Beitr. 6: 99. 1791

In rich soil of moist woods and slopes, sometimes in swamps. Common across the middle part of the State, but less frequent northward to Lake Champlain and to St Lawrence county, chiefly outside of the Adirondacks, and southward to Long Island.

J. G. Jack (Gard. & For. 8: 243. f. 36. 1895) describes a hybrid between *B. lenta* and *pumila*, which appeared naturally in the Arnold Arboretum.

- 7 *Betula lutea* Michx. f. Hist. Arb. Am. 2: 152. t. 5. 1812
 Yellow birch, gray birch

B. lenta, *B. lutea* Regel, in DC. Prodr. 16²: 170. 1868
B. alleghaniensis Britton, Torr. Club Bul. 31: 166. 1904
B. lutea var. *alleghaniensis* Ashe, Bul. Charleston Mus. 14: 11. 1918
B. carpinifolia Michx. Fl. Bor. Am. 2: 181. 1803. Not Ehrh.
B. excelsa Pursh, Fl. Am. Sept. 621. 1814. Not Ait.

In rich or moist woodlands, sometimes in wet soil. Common in the Catskill mountains and the Hudson highlands, southward and westward, often more or less indistinguishable from the northern variety *macrolepis* Fernald (Rhodora 24: 170. 1922), very common northward across the State, especially in the Adirondack region and westward along the Great Lakes.

According to Fernald (l.c.) the typical *B. lutea* is the more southern, or Appalachian form, which was described by Britton as *B. alleghaniensis*, and to the common northern form, regarded by Britton (N. Am. Trees 258, f. 217. 1908), as *B. lutea*, Fernald gives the varietal name *macrolepis*.

- 8 *Betula glandulosa* Michx. Fl. Bor. Am. 2: 180. 1803
 Glandular or scrub birch

B. nana Torrey, Fl. N. Y. 2: 301. t. 114. 1843. Not L.
B. littelliana Tuckerm. Am. Jour. Sci. 45: 31. 1843

A northern, arctic-alpine species, reported in this State only from the open summits of Mount Marcy and Mount McIntyre (4800-5400 feet altitude).

9 *Betula pumila* L. Mant. 124 1767 Bog birch, low birch

B. humilis Marsh. Arb. Am. 19. 1785

B. alpestris Fries, Summa Veg. Scand. 1: 212. 1846

B. pumila var. *glandulifera* Regel, in DC. Prodr. 16²: 171. 1864

In bogs and swamps. Frequent across the northern part of the State and in the northern and western counties outside of the Adirondacks. Locally abundant southward to Cortland and Dutchess counties and westward to Lake Erie.

ALNUS (Tourn.) Mill. Gard. Dist. abr. ed. 4. 1754

Betula-*Alnus* Marsh. Arb. Am. 20. 1785

Alnaster Spach, Ann. Sc. Nat. II. 15: 200. 1841

Alnobetula Schur. in Verh. Siebend. Ver. Naturw. 4: 68. 1853

1 *Alnus viridis* (Chaix) DC. Fl. Fr. 3: 304. 1805

Green or mountain alder

Betula viridis Chaix, in Villars, Hist. Pl. Dauph. 1: 374. 1786; 3: 789. 1789

B. Alnobetula Ehrh. Beitr. 2: 72. 1788

B. ovata Schrank, Baier. Fl. 1: 419. 1789

Alnus alpina Borkh. Handb. Forstbot. 1: 477. 1800

A. undulata Willd. Sp. Pl. 4: 336. 1805

A. Mitchelliana M. A. Curtis; Gray, Am. Jour. Sci. 42: 42. 1842

A. Alnobetula Hartig, Naturg. forstb. Kulturpfl. 372. 1851

Tickets, shores, slopes and rocky banks of ponds and lakes. Frequent across the northern part of the State and the higher Adirondacks, chiefly above 2000 feet elevation. Rare and local southward to Washington, Fulton, Oneida, Oswego and Lewis counties.

The common form in this State differs slightly from the typical European plant by its thicker, firmer and more rugose leaves, greener beneath, and may be designated as var. *crispa* (Ait.) comb. nov. (*Betula crispa* Ait. Hort. Kew. 3: 339. 1789, *B. Alnus crispa* Michx. Fl. Bor. Am. 2: 181. 1803. *Alnus crispa* Pursh, Fl. Am. Sept. 623. 1814). Some specimens, however, approach the European form in leaf-texture (Black mountain, Washington county, Burnham).

Var. *Fernaldii* nom. nov. (*Alnus mollis* Fernald, Rhodora 6: 162. 1904). Young twigs and branchlets densely pubescent, the leaves with a dense plush-like pubescence beneath. This corresponds rather closely to the European *A. viridis* var. *mollis* Beck, Fl. Nieder-Oesterr. 262. 1890 (*A. Alnobetula* var. *mollis* Callier), and may indeed, be the same thing.

Dwarfed, semiprostrate plants with small leaves, found on the summits of Mount Marcy and other Adirondack peaks, show an approach to *A. viridis* var. *repens* (Wormskj.) Aschers. & Graebn. Syn. Mittleleeu. Fl. 4: 415. 1911 (*A. repens* Wormskj. in Hornem. Fors. oec. pl. ed. 3, 1: 959. 1821 — Fl. Dan. t. 2738).

2 *Alnus incana* (L.) Medic. Pfl. Anat. 393. 1799-1801

Speckled or hoary alder

Betula Alnus β *incana* L. Sp. Pl. 983. 1753

B. incana L. f. Suppl. 417. 1781.

Betula-Alnus glauca Marsh. Arb. Am. 20. 1785

Alnus lanuginosa Gilib. Excerpt. Phyt. 2: 402. 1792

A. glauca Michx. f. Hist. Arb. Am. 3: 322. t. 4. f. 2. 1813

A. incana var. *glauca* Gray, Man. 423. 1848

In wet soil and in swamps and along streams and shores. Common northward across the State, westward to Lake Erie. Less frequent southward and apparently absent from the coastal plain.

Leaves not glutinous when young, oval-elliptical, mostly acute or short-acuminate, usually rounded at the base, doubly serrate, the upper surface dark green with impressed veins, the lower mostly downy on the nerves and ferruginous to glaucous, pistillate aments nearly sessile or the lowest ones stalked. Twigs usually velvety gray.

3 *Alnus rubra* (Marsh.) Desf.; Steud. Nom. ed. 1, 29. 1821

Betula Alnus-rugosa DuRoi, Harbk. 1: 112. 1771

Betula-Alnus rubra Marsh. Arb. Am. 20. 1785

Alnus serrulata Ait. Hort. Kew. 3: 336. 1789

Alnus rugosa Spreng. Syst. 3: 848. 1826

A. canadensis Lodd.; Loud. Hort. Brit. 378. 1830

A. novboracensis Britton, Torreya 4: 124. 1904

In wet soil, in swamps and along streams and lakes. Common across the State, chiefly south of, or outside of the Adirondacks.

Young branches angular, purplish; young twigs rusty to nearly smooth; leaves obovate, acute at base, sharply and almost regularly serrate with small teeth, usually green on both surfaces or somewhat paler green beneath and more or less pubescent, but not distinctly grayish or bluish-green, the principal veins rarely or not conspicuously impressed above; pistillate aments usually crowded, the lowest or lower ones rather long-stalked.

DuRoi used the specific name *Alnus-rugosa*, not *rugosa*, which must date from Sprengel. Marshall used the hyphenated name *Betula-Alnus* in a generic sense, and his specific name *rubra* is to be preferred.

4 *Alnus Alnus* (L.) Britton; Britton & Brown, Illus. Fl. ed. 2, 1: 613. 1913 European alder

Betula Alnus L. Sp. Pl. 983. 1753

B. Alnus var. *glutinosa* L., l.c.

Alnus vulgaris Hill, Brit. Herb. 510. 1756

A. glutinosa Gaertn. Fr. & Sem. 2: 54. 1791

In wet places. Reported as an escape from cultivation in the vicinity of New York City and about Rochester. Native of Europe

Family 6 **FAGACEAE** Drude, Phan. 409. 1879

Beech family

FAGUS (Tourn.) L. Sp. Pl. 997. 1753

Fagus grandifolia Ehrh. Beitr. 3: 22. 1788. American beech

F. americana latifolia Muench. Hausv. 5: 162. 1770

F. sylvatica atropunicea Marsh. Arb. Am. 22. 1785

F. ferruginea Ait. Hort. Kew. 3: 362. 1789

F. americana Sweet, Hort. Brit. 370. 1826.

F. latifolia Sudw. Nomencl. Arb. U. S. 148. 1897

In rich soil. Common throughout the State, but scarce in the pine-barrens of Long Island.

CASTANEA (Tourn.) Hill, Brit. Herb. 509. 1756

Castanea dentata (Marsh.) Borkh. Handb. Forstbot. 1: 741. 1800
American chestnut

Fagus-castanea dentata Marsh. Arb. Am. 46. 1785

C. vesca var. *americana* Michx. Fl. Bor. Am. 2: 193. 1803

Frequent or common across the State south of the Adirondack region, but rare or lacking in the pine-barrens of Long Island. Northward in the Hudson valley to Washington, Fulton and Saratoga counties. Largely absent from the upper Mohawk valley and from the hills of central and western New York, but common on the Ontario lowlands from Oneida lake and Oswego county westward to Lake Erie, and in all of the valleys of the southern tier of counties bordering on Pennsylvania.

Castanea pumila (L.) Mill., the Chinquapin, was reported from Long Island by *W. R. Prince* (Torrey, Fl. N. Y. 2: 196. 1843). but has not been known to occur as a native in the State within the past century, although it probably occurred sparingly on western Long Island in colonial times.

QUERCUS (Tourn.) L. Sp. Pl. 994. 1753

Section **Erythrobalanus** Spach

1 Quercus rubra L. Sp. Pl. 996. 1753 Red oak

Q. rubra, β L., l.c.

Q. rubra maxima Marsh. Arb. Am. 122. 1785

Q. rubra, var. *latifolia* Lam. Encycl. 1: 721. 1785

Q. borealis var. *maxima* Sarg. Rhodora 18: 48. 1916 -Ashe, Proc. Soc. Am. For. 11: 90. 1916

Common in rich woods and on hillsides and uplands across the State chiefly outside of the higher Adirondacks, but not infrequent in some of the lower valleys and foothills of that region.

In its typical form with very large acorns with very shallow cups not infrequently intergrading with the so-called variety (the gray oak) which has smaller acorns and deeper cups, and which does not seem to have in this State any distinct geographical range from that of the typical *Q. rubra*, and has been maintained in some works as distinct, but is at most only a variety.

Var. **borealis** (Michx. f.) House, N. Y. State Mus. Bul. 243-244: 60. 1923

Q. borealis Michx. f. N. Am. Sylv. 1: 98. pl. 26. 1817

Q. ambigua Michx. f. Hist. Arb. Am. 2: 120. pl. 24. 1812. Not Humb. & Bonpl.

Typical specimens of this variety occur in the Hudson highlands, and locally northward to Washington, Warren, Hamilton and Jefferson counties, and along the Great Lakes.

According to Sargent (*Rhodora* 17: 39. 1915), the Linnaean type of *Q. rubra* is the tree more recently called *Q. falcata* or *Q. digitata*, and hence chiefly south of our borders. This is quite parallel to the confusion which Sargent has caused in the names of the balsam poplar.

If *Q. rubra* rested absolutely upon the Gronovian and Plukenet citations, the change though regrettable might be excused. However it happens that *Q. rubra* was briefly described by Linnaeus in the *Species Plantarum*, and the Gronovian and Plukenet citations merely appended, and in this case as in numerous other Linnaean species of the *Species Plantarum*, wrongly so. Nothing is to be gained by such changes and in most instances of this sort the alternative plant has since received a valid name, and the well known and long used Linnaean name can be retained by merely excluding the wrongly appended citations.

Q. Porteri Trelease, *Proc. Am. Phil. Soc.* 56: 51. 1917, is described as a hybrid between *Q. rubra* and *Q. velutina*.

2 *Quercus palustris* DuRoi, Harbk. 2: 268. *pl.* 5. *f.* 4. 1772

Swamp oak, pin oak

In moist or swampy ground. Frequent in the lower Hudson valley, north to Dutchess and Greene counties. Reported from Schenectady by Pearson (Paine, *Cat. Pl. Oneida Co.* 126. 1865). Rare in the pine-barrens of Long Island.

The hybrid between *Q. palustris* and *Q. rubra* is known as x *Q. Richteri* Baenitz, *Alleg. Bot. Zeit.* 9: 85. 1903

3 *Quercus coccinea* Wang. Amer. 44. *pl.* 4. *f.* 9. 1787

Scarlet oak

In dry soil. Frequent or common in southern New York, especially in the lower Hudson valley and on Long Island and Staten Island. Rare northward to the Mohawk valley, and locally westward to Lake Erie, but not reported from the upper Susquehanna or Chenango valleys, but said to be frequent in the southern tier of counties from Broome county westward.

Q. Robbinsii Trelease, l.c. 51 (*coccinea* x *ilicifolia*) and *Q. Benderi* Baenitz, l.c. (*coccinea* x *rubra*), are hybrids which may be looked for in this State.

4 *Quercus velutina* Lam. Encycl. 1: 721. 1785

Black oak, quercitron, Dyer's oak

Q. nigra DuRoi, Harbk. 2: 272. *t.* 6. *f.* 1. 1772 (excl. syn.).

Q. discolor Ait. Hort. Kew. 3: 358. 1789

Q. tinctoria Bartram, Travels, name only. 1791; Michx. Hist. Chen. Am. No. 13. *t.* 24, 25. 1801

In dry, often sandy or rocky soil. Common, especially in barren or sterile soil, across the State, northward to Lake George and Saratoga county, in central New York about Oneida lake and in Oswego county and in the Ontario lowlands westward to Lake Erie.

5 *Quercus triloba* Michx. Hist. Chen. Am. No. 14. *pl.* 26. 1801
Spanish or water oak

- Q. cuneata* Wang. Nordam. Holz. 78. *t.* 5. *f.* 14. 1787
Q. nigra digitata Marsh. Arb. Am. 121. 1785
Q. falcata Michx., l.c. 16. *pl.* 28
Q. elongata Willd. Neue Schrift. Gesell. Nat. Fr. Berlin 3: 400. 1801
Q. digitata Sudw. Gard. & For. 5: 99. 1892

Recorded from Long Island, but not definitely verified, according to Taylor (Fl. Vic. N. Y. 277. 1915).

6 *Quercus pagoda* Raf. Alsog. Am. 23. 1838 Elliott's oak

- Q. falcata pagodaefolia* Ell. Bot. S. C. & Ga. 2: 605. 1824
Q. pagodaefolia Ashe, Bot. Gaz. 24: 375. 1897

West Hempstead, Long Island, Taylor (Torreya 10: 226. 1910)

7 *Quercus ilicifolia* Wang. Amer. 79. *pl.* 6. *f.* 17. 1787
Bear or scrub oak

- Q. rubra nana* Marsh. Arb. Am. 123. 1785
Q. Banisteri Michx. Hist. Chen. Am. No. 15. *pl.* 27. 1801
Q. nana Sudw. Gard. & For. 8: 93. 1895

In sterile or dry, usually sandy or rocky soil. Common on Long Island and Staten Island, the Hudson highlands, the sandy plains of Albany, Schenectady and Saratoga counties and occasional westward to the Chenango, Susquehanna and Tioga valleys.

Paine (Cat. Pl. Oneida Co. 126. 1865) reports it from the pine plains of Rome, where it was observed as common along what is known as the Oswego road, by the writer in 1920 and 1921. Holzner (Proc. Rochester Acad. 3: 102. 1896) is given as authority for its occurrence near Rochester, which has not been verified. It is reported from Lewis county by Hough. Sargent (N. Am. Silva 8: 156. 1895), reports it from Lake George (in Herb. Engelmann).

In the pine-plains west of Albany it hybridizes with *Q. velutina*, (x *Q. Rehderi* Trelease, l.c. 51) and in New Jersey with *Q. Phellos*; (x *Q. Giffordii* Trelease, l.c. 49; Peters, in Torr. Club Bul. 20: 295. 1893).

8 *Quercus marilandica* Muench. Hausv. 5: 253. 1770
Black jack or barren oak

- Q. nigra*, β L. Sp. Pl. 995. 1753
Q. nigra Wang. Nordam. Holz. 133. 1781; Torr. Fl. N. Y. 2: 188. *pl.* CV. 1843
Q. ferruginea Michx. f. Hist. Arb. Am. 2: 92. *t.* 18. 1812

In dry sandy soil. Uncommon on Long Island and Staten Island, but not reported northward.

x **Quercus Rudkini** Britton (Torr. Club. Bul. 9: 13. t. 10-12. f. 1-5. 1882), from Staten Island, is a hybrid between *Q. marilandica* and *Q. Phellos*.

x **Quercus Brittoni** W. T. Davis (Torr. Club Bul. 19: 301. 1892), from Staten Island, is a hybrid between *Q. marilandica* and *Q. ilicifolia*.

9 **Quercus Phellos** L. Sp. Pl. 994. 1753. Willow oak

In low or moist woods. Infrequent on Staten Island and rare on Long Island south of the moraine.

x **Quercus heterophylla** Michx. f. (Hist. Chen. Am. 2: 97. pl. 16. 1812), the Bartram Oak, which occurs from Staten Island southward, is regarded by Sargent (l.c. 180) as a hybrid between *Q. Phellos* and *Q. velutina*. Doctor Hollick, however, regards the Staten Island specimens as hybrids between *Q. Phellos* and *Q. rubra* (Torr. Club Bul. 15: 303. t. 84, 85. 1888). *Q. Hollickii* Schneider, Ill. Handb. Laubh. 1: 165. 1904.

10 **Quercus imbricaria** Michx. Hist. Chen. Am. No. 9. pl. 15, 16.

1801

Shingle oak

Flushing, Long Island, perhaps cultivated, *Taylor* (Torreya 10: 226. 1910). Sargent gives the range as Lehigh county, Pennsylvania, southward and westward. For hybrids of *Q. imbricaria*, see Trelease, l.c. 49.

Section **Lepidobalanus** Endl.

11 **Quercus alba** L. Sp. Pl. 996. 1753 White oak

In rich woods, sometimes in rocky places or in poor soil. Common across the State south of the Adirondacks, and locally northward both east and west of the mountains and up the lower valleys of the region.

x **Quercus Jackiana** Schneider, l.c. 202, a hybrid between *Q. alba* and *Q. bicolor*, is reported from near Rochester.

x **Quercus Saulii** Schneider, l.c., a hybrid between *Q. alba* and *Q. Prinus*, has been collected in the Hudson valley.

Other hybrids which may be looked for in New York are:

x **Q. Bebbiana** Schneider (*alba* x *macrocarpa*)

x **Q. Deami** Trelease (*alba* x *Muhlenbergii*)

x **Q. Faxoni** Trelease (*alba* x *prinoides*)

x **Q. Fernowi** Trelease (*alba* x *stellata*)

12 **Quercus stellata** Wang. Amer. 78. pl. 6. f. 15. 1787

Post or iron oak

Q. alba minor Marsh. Arb. Am. 120. 1785

Q. obtusiloba Michx. Hist. Chen. Am. 1: pl. 1. 1801

Q. minor Sarg. Gard. & For. 2: 471. 1889

In dry, usually sandy soil. Southern New York on Long Island and Staten Island, and northward to Larchmont, Westchester county. Paine's report (Cat. 125. 1865) of this species from Schenectady has not been verified, but considering the many other coastal-plain species found on the sand plains between Albany and Schenectady, it is not improbable that this tree may once have occurred there, although not seen there in recent years.

- 13 *Quercus macrocarpa* Michx. Hist. Chen. Am. 2: pl. 23. 1801 Mossy-cup, blue or bur oak
Q. olivaeformis Michx. f. Arb. Am. 2: pl. 2. 1812

In rich, often alluvial soil, and on hillsides. Frequent across the State south of the Adirondack region, and northward to Lake Champlain, St Lawrence and Jefferson counties. Not reported from south of Greene county in the Hudson valley and rare in the Susquehanna region. A hybrid with *Q. Muhlenbergii* is known as x *Q. Hillii* Trelease, l.c. 49.

- 14 *Quercus bicolor* Willd. Neue Schrift. Ges. Nat. Fr. Berlin 3: 396. 1801 Swamp white oak

Q. alba palustris Marsh. Arb. Am. 120. 1785
Q. Prinus, β. *platanoides* Lam. Encycl. 1: 720. 1785
Q. Prinus tomentosa Michx. Hist. Arb. Am. t. 9. 1801
Q. Prinus discolor Michx. f. Hist. Arb. Am. 2: 46. t. 6. 1812
Q. bicolor, β. *mollis* Nutt. Gen. 2: 215. 1818
Q. platanoides Sudw. Rep't Sec'y, Agric. 1892: 327. 1893

In moist or swampy soil. Frequent or locally common across the State south of the Adirondack region, northward to Saratoga and St Lawrence counties. Not reported from the pine-barrens of Long Island. A hybrid with *Q. macrocarpa* is known as x *Q. Schuettei* Trelease, l.c. 51.

- 15 *Quercus Prinus* L. Sp. Pl. 996. 1753 Rock chestnut oak
Q. Prinus monticola Michx. Hist. Chen. Am. 1: pl. 7. 1801
Q. montana Willd. Sp. Pl. 4: 440. 1805
Q. Castanea Emerson, Trees Mass. 137. t. 5. 1838

In dry soil, chiefly in rocky woods and uplands. Frequent in the Hudson valley northward to Lake Champlain and westward to central New York and Lake Erie. Increasingly abundant southward on the Appalachian plateau region.

Sargent (Rhodora 17: 39. 1915) indicates that because Catesby's figure cited by Linnaeus belongs to what we have in recent years called *Q. Michauxii*, the name *Q. Prinus* L. should be applied to *Q. Michauxii*. The first part of the Linnaean description is taken from the Hortus Cliffortianus, and refers without doubt to our northern rock chestnut oak. The same reasons for rejecting this proposed change apply here as in the case of *Q. rubra*.

16 **Quercus Muhlenbergii** Engelm. Trans. St Louis Acad. 3: 391.
1877 Chinkapin oak, yellow chestnut oak

Q. Prinus acuminata Michx. Hist. Chen. Am. 1: 5. pl. 8. 1801

Q. Castanea Pursh, Fl. Am. Sept. 634. 1814; Torrey, Fl. N. Y. 2: 193. 1843
Not Née. 1801

Q. acuminata Sarg. Gard. & For. 8: 93. 1895. Not Roxb. 1832

In dry soil, preferring limestone ridges and ledges. Frequent from Gardner's Island, Lake Champlain southward in the Hudson valley to Peekskill, westward to Onondaga, Monroe and Niagara counties. Infrequent or rare in the southern tier of counties bordering on Pennsylvania.

Quercus Alexanderi Britton, Man. 336. 1901, is sometimes regarded as a distinct species, but is probably only a slightly variant northeastern form of the species.

17 **Quercus prinoides** Willd. Neue Schrift. Ges. Nat. Fr. Berlin
3: 397. 1801 Scrub or dwarf chestnut oak, chinkapin oak

Q. Prinus humilis Marsh. Arb. Am. 125. 1785

Q. Prinus pumila Michx. Hist. Chen. Am. No. 5, t. 9. f. 1. 1801

Q. Prinus Chincapin Michx. f. Hist. Arb. Am. 2: 64. t. 10. 1812

Q. Chinquapin Pursh, Fl. Am. Sept. 634. 1814

Q. Muhlenbergii var. *humilis* Britton, Torr. Club Bul. 13: 141. 1886

In dry sandy or rocky soil. Washington and Saratoga counties southward. Common between Albany and Schenectady and on rocky hills and sandy soils throughout the Hudson valley and on Long Island and Staten Island. Less frequent westward to the Chemung valley in Broome and Tioga counties. Reported from near Rochester. A form with yellowish pubescence on the twigs and leaves is described as forma *rufescens* (Rehder).

Family 7 **ULMACEAE** Mirbel, Elem. 2: 905. 1815

Elm family

ULMUS (Tourn.) L. Sp. Pl. 225. 1753

1 **Ulmus americana** L. Sp. Pl. 226. 1753

American, white or water elm

U. mollifolia Marsh. Arb. Am. 156. 1785

In moist soil, especially along streams and in swampy lowlands. Common throughout the State, but rare or absent in the Adirondacks above 2500 feet altitude.

A form with columnar, flat-topped crown, forma *columnaris*, is described by Rehder (Jour. Arnold Arb. 3: 42. 1922) from Conesus lake and Rochester.

- 2 **Ulmus scabra** Mill. Gard. Dict. ed. 8, No. 2. 1768
Scotch, wych or Dutch elm

U. montana With. Arr. Bot. Veg. Gr. Brit. 2: 279. 1776

U. hollandica Pallas, Fl. Ross. 1: 77. 1784. Not Mill.

U. media Ehrh. Beitr. 6: 86. 1791

U. excelsa Borkh. Forstbot. 1: 839. 1800

Native of Europe. Commonly planted for shade and ornament, and frequently spreading or adventive, especially in the Hudson valley.

- 3 **Ulmus Thomasi** Sargent, Silva 14: 102. 1902
Cork or rock elm

U. racemosa Thomas, Am. Jour. Sci. 19: 170. 1831

In rich soil and on limestone ledges and ridges. Frequent across the western part of the State from St Lawrence county south to southern Herkimer, Madison, Cortland and Broome counties.

- 4 **Ulmus fulva** Michx. Fl. Bor. Am. 1: 172. 1803
Slippery, red or moose elm

? *U. pubescens* Walt. Fl. Car. 111. 1788

U. americana Marsh. Arb. Am. 156. 1785. Not L.

U. americana rubra Ait. Hort. Kew. 1: 319. 1789

U. crispa Willd. Enum. 295. 1809

U. rubra Michx. f. Silv. 3: 138. 1819

In woods and on hills and along streams. Frequent or common across the State south of the Adirondack region.

- 5 **Ulmus campestris** L. Sp. Pl. 225. 1753
English elm

U. glabra Mill. Gard. Dict. ed. 8, No. 4. 1768

U. procera Salisb. Prodr. Stirp. Allerton, 391. 1796

U. suberosa Smith, Engl. Bot. 31: t. 2161. 1810

Native of Europe. Commonly planted for ornament and shade and frequently becoming established in some localities. Occasionally spreading as an escape along roads and edges of thickets about cities and towns.

Ulmus parvifolia Jacq. Hort. Schoenb. 3: 6. t. 262. 1798, has also been observed as an escape near Albany.

CELTIS (Tourn.) L. Sp. Pl. 1043

- 1 **Celtis occidentalis** L., l.c. 1044
Hackberry, sugarberry

In woods and on river banks. Rare or infrequent across the State northward. Locally abundant and quite certainly native in the Hudson valley and westward to Tompkins county and in the southern tier of counties bordering on Pennsylvania. Rare in the pine-barrens of Long Island.

Northampton, Fulton county, *House, Olsson* (numerous large trees, but possibly not native there). Banks of the Black river near Lowville, *Peck* (42d Rep't N. Y. State Mus. 36. 1889). Near Oneida lake, *Kneiskern*; Ontario county at Gorham, *Sartwell* (Paine, Cat. Pl. Oneida Co. 124. 1865). Baldwinsville, Onondaga county, *Beauchamp*. Wayne and Monroe counties, scarce (Proc. Rochester Acad. 3: 100. 1895; 5: 83. 1917). Binghamton, Apalachin and Barton, Tioga county, *Fenno* (Clute, Fl. Upper Susquehanna 94. 1898). Several localities, *Dudley* (Fl. Cayuga Flora, 82. 1886). Stockholm, St Lawrence county, *Phelps*.

2 *Celtis pumila* Pursh, Fl. Am. Sept. 200. 1814 Low hackberry
C. maritima Raf. Am. Mo. Mag. 2: 44. 1817

In dry and sandy soil. Infrequent or rare in western New York, Sargent (Bot. Gaz. 67: 217. 1919). Sandy soil along railroad at mouth of Irondequoit bay on Lake Ontario, *House*.

The description of *C. maritima* by Rafinesque seems to apply to this plant, which according to him occurs on the "downs of the sea-shore in Long Island."

3 *Celtis crassifolia* Lam. Encycl. 4: 138. 1797
Dog's cherry, rough-leaved hackberry

In rich rocky soil and along banks of streams. Uncommon from Ulster county southward.

Saugerties, *Peck* (N. Y. State Mus. Bul. 131: 19. 1909). Garrison, *Taylor* (Fl. Vic. N. Y. 281. 1915). Newburg, *House*.

Celtis canina Raf. (Am. Mo. Mag. 2: 43. 1817), is described by Britton & Brown (Illus. Fl. ed. 2, 1: 629. 1913), and by Sargent (Bot. Gaz. 67: 217. 1919), as having "narrower (than *occidentalis*), long acuminate leaves." Sargent makes it a variety of *C. occidentalis*.

Rafinesque states that the species was found near Fishkill, Newburgh and near New York. His description does not especially indicate that the leaves are narrower than in *C. occidentalis*. The drupes are described as red, the leaves are said to be "wrinkled" above and nerved beneath with pubescent axils, peduncles longer than the petioles. These characters taken in connection with the known *Celtis* which occurs at the localities which he mentions quite clearly indicates that *C. canina* is what has been and is still called *C. crassifolia*.

Family 8 **MORACEAE** Lindl. Veg. Kingd. 266. 1847

Mulberry family

MORUS (Tourn.) L. Sp. Pl. 986. 1753

1 **Morus rubra** L., l.c.

M. scabra Willd. Enum. 967. 1809

M. missouriensis Audit. Jard. Ton. 1853

In rich soil, especially along streams. Frequent across the southern part of the State. Scarce or rare northward to Rensselaer, Albany, Oneida, Madison and Niagara counties.

2 **Morus alba** L., l.c. White mulberry

Native of the Old World and sparingly escaped from cultivation and locally established.

3 **Morus nigra** L., l.c. Black mulberry

M. canadensis Lam. Encyc. Meth. 4: 380. 1797

Native of the Old World and reported as an escape from cultivation as far north as New York City.

TOXYLON (Ioxylon) Raf. Am. Mo. Mag. 2: 118. 1817

Maclura Nutt. Gen. 2: 233. 1818

Toxylon pomiferum Raf., l.c. Osage or wild orange

Maclura aurantiaca Nutt., l.c.

T. Maclura Raf. New Fl. 3: 43. 1836

T. aurantiacum Raf. Med. Fl. 2: 268. 1830

Maclura pomifera Schneider, Illus. Handb. Laubh. 1: 806. 1906

Native from Missouri to Kansas and Texas. Naturalized or escaped from cultivation in southeastern New York, and rarely or locally elsewhere across the State south of the Adirondacks.

PAPYRIUS Lam. Encycl. 3: 382. 1797

Broussonetia L'Her.; Vent. Tabl. 3: 547. 1799. Not Ortega, 1798

Papyrius papyrifera (L.) Kuntze, Rev. Gen. Pl. 629. 1891

Paper mulberry

Morus papyrifera L. Sp. Pl. 986. 1753

B. papyrifera Vent., l.c. 548

Native of Asia and sparingly escaped from cultivation in southern New York, especially on Staten Island and on Long Island.

Family 9 **ARTOCARPACEAE** Horan. Tetract. Nat. 25. 1843

CANNABINACEAE Lindl. Veg. Kingd. 265. 1847

Hemp family

HUMULUS L. Sp. Pl. 1028. 1753

Lupulus [Tourn.] Mill. Gard. Dict. 4th Abr. Ed. 1754

1 **Humulus Lupulus** L., l. c.

Hops

L. Humulus Mill. Gard. Dict. ed. 8. 1768

L. communis Gaertn. Fr. 1: 358. t. 75. 1788

L. scandens Lam. Fl. Fr. 2: 217. 1778

In thickets and on river banks. Common or frequent in some sections of the State, usually as an escape from cultivation. Regarded as native of North America, but probably never indigenous in this State.

2 *Humulus japonicus* Sieb. & Zucc. Fl. Jap. 2: 89. 1846

Japanese hops

Native of Asia, and reported as a rare escape from cultivation in the central and southern portions of the State.

CANNABIS (Tourn.) L. Sp. Pl. 1027. 1753

Cannabis sativa L., l.c.

Hemp, red root

Native of Europe and Asia. A frequent escape in waste places in the southern part of the State, where it may be regarded as established. Infrequent or rare northward and westward in the State.

Family 10 **URTICACEAE** Reichenb., Consp. 83. 1828

Nettle Family

URTICA (Tourn.) L. Sp. Pl. 983. 1753

1 *Urtica dioica* L., l.c. 984

Stinging or great nettle

In waste places. Casual or in some sections rather common. Naturalized from Europe.

2 *Urtica gracilis* Ait. Hort. Kew. 3: 341. 1789

Slender or tall wild nettle

In dry or moist thickets, along fence-rows, borders of woods and woodland openings. Common throughout the State except on Long Island, where it is reported as rare.

The common form northward has broader leaves more coarsely serrate and often cordate (*Urtica Lyallii* S. Wats. Proc. Am. Acad. 10: 348. 1875), but in this State at least shows no constant points of distinction.

3 *Urtica urens* L. Sp. Pl. 984. 1753

Small or dwarf nettle

Native of Europe. Adventive or sparingly naturalized on Long Island, in Rensselaer and Livingston counties, and doubtless elsewhere.

4 *Urtica chamaedryoides* Pursh, Fl. Am. Sept. 113. 1814

Weak nettle

Native of the southeastern United States and adventive at Rochester (Proc. Rochester Acad. 3: 100. 1896; 5: 83. 1917).

URTICASTRUM Fabr. Enum. 204. 1759

Laportea Gaud. in Freyc. Voy. Bot. 498. 1826

Urticastrum divaricatum (L.) Kuntze, Rev. Gen. Pl. 635. 1891
Wood or Canada nettle

Urtica divaricata L. Sp. Pl. 985. 1753

U. canadensis L., l.c.

Laportea canadensis Gaud., l.c.

Urtica Whitlowi Muhl.; Green, Cat. Pl. N. Y. 1814

In rich woods and moist thickets. Common northward. Rare in the pine-barrens of Long Island and in the higher portions of the Adirondacks.

PILEA Lindl. Coll. pl. 4. 1821

Adicea Raf. Ann. Nat. 179. Hyponym, 1815

Pilea pumila (L.) A. Gray, Man. 437. 1848
Coolweed, richweed, clearweed

Urtica pumila L. Sp. Pl. 984. 1753

Adike pumila, *glaberrima*, *lanceolata*, *rhomboidea* Raf. New Fl. 63. 1836

Adicea pumila, & *A. trinerva* Raf.; Torrey, Fl. N. Y. 2: 223. as synonyms. 1843

In swamps, shaded situations, low woods or moist rocks. Common in most sections of the State, but absent from the pine-barrens of Long Island.

BOEHMERIA Jacq. Stirp. Am. 246. pl. 157. 1763

Ramium (Rumpf. 1747) Kuntze, Rev. Gen. Pl. 2: 633. 1891

Boehmeria cylindrica (L.) Sw. Prodr. 34. 1788 False nettle

Urtica cylindrica L. Sp. Pl. 984. 1753

U. capitata L., l.c.

Duretia cylindrica Gaudich. Uran. 499. 1826

Ramium cylindricum Kuntze, l.c.

In moist or wet soil, chiefly in woods, openings in swamps, or in thickets or borders of low woods. Common throughout the State.

Var. **Drummondiana** Weddell, in DC. Prodr. 16: 202. 1869

Boehmeria Drummondiana Weddell, Ann. Sci. Nat. IV. 1: 201. 1854

B. cylindrica var. *scabra* Porter, Torr. Club Bul. 16: 21. 1889

B. scabra Small, Fl. SE. U. S. 358. 1903

In wet or marshy thickets, woods and wet meadows. Infrequent from Greene county westward to Madison, Onondaga and Monroe counties southward.

Occasional on Long Island, rare on Staten Island; Bronx county and Westchester county to the highlands, *Taylor* (Fl. Vic. N. Y. 284. 1915). Catskill, Greene county, *House*. Kirkville, Onondaga county; Rockland lake and Oneida, *House*. Mendon, Monroe county, *Baxter*.

PARIETARIA L. Sp. Pl. 1052. 1753

Helxine Bub. Fl. Pyren. 1: 76. 1897

Parietaria pennsylvanica Muhl.; Willd. Sp. Pl. 4: 955. 1805
 Pennsylvania pellitory

P. americana Muhl. Cat. 95. 1813

On dry rocks and banks, often on limestone ledges or soil. Infrequent from Washington county westward to Lake Erie and southward.

Family 11 **LORANTHACEAE** D. Don, Prodr. Fl. Nepal. 142. 1825

Mistletoe family

RAZOUMOFSKYA Hoffm. Hort. Mosc. 1808

Arceuthobium Bieb. Fl. Taur. 3: 629. 1819

Razoumofskya pusilla (Peck) Kuntze, Rev. Gen. Pl. 587. 1891
 Small mistletoe

A. pusillum Peck, 25th Rep't N. Y. State Mus. 69. 1873

A. minutum Engelm. Torr. Club Bul. 2: 43. Without descr. 1871

On twigs of spruce (usually *Picea nigra*, rarely *P. rubens*), and rarely on tamarack, in swamps and bogs. Frequent across the State northward. Less common, rare or local southward to Sullivan county and westward to Monroe county.

Warrensburg, Warren county, *Mrs Lucy A. Millington* (Engelmann, l.c.). Sandlake, Rensselaer county, *Peck*, Type. Forestburg, Sullivan county, *Peck* (Torr. Club Bul. 4: 44. 1873). Lily marsh, Oswego county, *Wibbe* (Torr. Club Bul. 6: 192. 1877). Kasoag, Oswego county and Providence, Saratoga county, *Peck* (28th Rep't N. Y. State Mus. 83. 1876). North Elba, Essex county, *Peck* (N. Y. State Mus. Bul. 28: 121. 1899). Newcomb, *House*. Tupper Lake, Franklin county, *Peck* (49th Rep't N. Y. State Mus. 28. 1896). Frankfort Hill, Herkimer county, *Haberer* (Torr. Club Bul. 9: 34. 1882). Mendon, Monroe county, *Barter* (Proc. Rochester Acad. 3: 99. 1896). Preston, Plymouth and German, Chenango county, *Coville* (42d Rep't N. Y. State Mus. 36. 1889). Long Lake and Forestport, Oneida county, *Haberer* (*Rhodora* 7: 108. 1905).

For additional observations on this species, see: Torr. Club Bul. 2: 47, 48. 1871; 3: 24, 55. 1872; 4: 15, 44. 1873; Am. Nat. 6: 166, 406. 1872; *Rhodora* 2: 2-11. 1900; *Torreyia* 2: 8. 1902.

Phoradendron flavescens (Pursh) Nutt. On apparently good authority Doctor Britton states that this species, the common mistletoe of the South, was formerly found on Staten Island, which is not improbable, since the species is known to occur in central New Jersey. Unfortunately there seem to be no herbarium specimens in existence as a record of its former occurrence on Staten Island (Torr. Club Bul. 11: 76. 1884).

Family 12 **SANTALACEAE** R. Br. Prodr. 1: 350. 1810

Sandalwood family

COMANDRA Nutt. Gen. 1: 157. 1818

1 **Comandra umbellata** (L.) Nutt. l.c. Bastard toad flax

Thesium umbellatum L. Sp. Pl. 208. 1753

T. corymbosulum Michx. Fl. Bor. Am. 1: 112. 1803

In dry, often sandy fields and thickets, more rarely in marly bogs. Locally common across the State south of the Adirondack region and frequent or common on Long Island and Staten Island.

Northern localities: Throughout the valley of the Mohawk from Schenectady to Oneida lake, *Paine* (Cat. Pl. Oneida Co. 122. 1865). Frequent west of Albany, *Peck, House*. Glenmont, Albany county; and Oneida lake, *House*. Bank of the Genesee river, Oak Orchard creek, Canandaigua lake, etc. (Proc. Rochester Acad. 3: 99. 1896). Bergen swamp, Genesee county *Paine, Baxter, House*. Day (Pl. Buffalo, 1883) thinks that the Bergen swamp plant is *C. livida*. It grows in a marl bog, and is paler in color with narrower leaves, than typical *C. umbellata*, but otherwise is not different.

2 **Comandra Richardsiana** Fernald, Rhodora 7: 48. 1905

Richard's bastard toad flax

In sandy or clayey soils. Irondequoit, Monroe county, *House*. Perhaps of wider distribution in the Ontario lowlands.

3 **Comandra livida** Richards. App. Frankl. Jour. 734. 1823

Northern comandra

Hamiltonia sarmentosa Spreng. Syst. 1: 831. 1825

In moist stony or rocky situations. Summit of Mount Marcy, June, 1920. *A. B. Brooks*. (state herbarium); *Neil Hotchkiss*, June, 1923.

Family 13 **ASARACEAE** Link, Enum. 2: 1. 1822

ARISTOLOCHIACEAE Blume, Enum. Pl. Jav. 1: 81. 1830

Birthwort family

ASARUM (Tourn.) L. Sp. Pl. 442. 1753

1 **Asarum canadense** L. Sp. Pl. 442. 1753 Wild or Indian ginger

In rich woods. Common throughout the State, except south-eastward, where rare. Reported from but not recently collected on Long Island (Bisky, Torr. Club Bul. 14: 13. 1887).

2 **Asarum acuminatum** (Ashe) Bicknell, in Britton & Brown, Illus.

Fl. 3: 513. 1898

Long-tipped wild ginger

A. canadense var. *acuminatum* Ashe, Contr. 1: 2. 1897

Described as a campestrian species of rich woods from Ohio to Minnesota and Kentucky, but specimens from St Lawrence county (*Phelps*) and northern Lewis county (*Peck*), appear to belong to this imperfectly known form.

- 3 **Asarum reflexum** Bicknell, Torr. Club Bul. 24: 533. *pl.* 317. 1897
Short-lobed wild ginger

In rich woods, along streams or river valleys, infrequent in the southeastern part of the State. Staten Island, Bronx, Westchester, Rockland and Greene counties.

ARISTOLOCHIA (Tourn.) L. Sp. Pl. 960. 1753

Siphisia Raf. Med. Fl. 1: 62. 1828

- 1 **Aristolochia Serpentaria** L., l.c. 961

Virginia snakeroot, serpentry

Rare and local on Long Island and Staten Island, apparently absent south of the moraine on Long Island. Northward to Putnam county, according to Taylor.

- 2 **Aristolochia Clematitis** L., l.c. 962

Birthwort

Native of Southern Europe. Naturalized along the Hudson river near Lansingburg, and reported as established at Flushing, Long Island (*Taylor*), and at Union Springs, Cayuga county (*Dudley*).

- 3 **Aristolochia tomentosa** Sims. Bot. Mag. *pl.* 1369. 1811

Woolly pipe vine

Siphisia tomentosa Raf., l.c. 62, 65

Native from Pennsylvania southward. Reported as established at Rochester.

Family 14 **POLYGONACEAE** Desv. Fl. Anjou 127. 1827

Buckwheat family

RUMEX L. Sp. Pl. 333. 1753

Sect. **Acetosa** Meissn.

Acetosa (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754

- 1 **Rumex Acetosella** L., l.c. 338 Field, wood, red or sheep Sorrel

A. Acetosella Mill. Gard. Dict. ed. 8, No. 2, 1768

A. repens S. F. Gray, Nat. Arr. Br. Pl. 2: 276. 1821

In dry fields and on hillsides. Locally frequent across the State usually in sterile or sandy soils. Said to be native in the western States, but in New York apparently naturalized from Europe.

- 2 **Rumex hastatulus** Muhl. Cat. ed. 2, 37. 1818 Engelman's sorrel
Rumex Engelmanni Meissn. in DC. Prodr. 14: 64. 1856. Probably not
Acetosa hastatula Raf.

In sandy soil. Rare on eastern Long Island.

Northville, *Young* (Torr. Club Bul. 3: 51. 1872). Mouth of
 Peconic river, *Young* (26th Rep't N. Y. State Mus. 48. 1874).
 Not reported from western Long Island, Staten Island nor from
 south of the moraine on Long Island (*Taylor*).

- 3 **Rumex Acetosa** L. Sp. Pl. 337. 1753. Meadow or green sorrel
A. pratensis Mill., l.c. No. 1
A. agrestis, angustata, amplexicaulis, bidentula, hastatula, Raf. New Fl. 4:
 52, 53. 1838

Native of the Old World. Said to be native across the north of
 the American continent. Common as a weed throughout most sec-
 tions of the State, but less common on Long Island. Largely if not
 wholly naturalized from Europe.

Sect. **Lapathum** Meissn.

Lapathum (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754

- 4 **Rumex pallidus** Bigel. Fl. Bost. ed. 2, 143. 1824
 Large-tuberculed dock
 Orient Point, Long Island, *Latham* (state herbarium).

- 5 **Rumex mexicanus** Meissn. in DC. Prodr. 14: 45. 1856
 White, pale or willow-leaved dock
R. salicifolius Hook. Fl. Bor. Am. 2: 129. 1840. Not Weinm. 1821

Occasional as a weed in waste ground in southern New York
 (according to *Taylor*, Fl. Vic. N. Y. 288. 1915). Canton, *Phelps*.

- 6 **Rumex verticillatus** L. Sp. Pl. 334. 1753 Swamp dock
 In swamps and shores of rivers and lakes. Frequent or occasional
 across the State from Lake Champlain to the St Lawrence river,
 westward to Lake Erie and southward. Not reported from the
 Adirondacks or the Catskills.

- 7 **Rumex altissimus** Wood, Classbook, 477. 1853
 Tall or peach-leaved dock
 Along streams and in swamps. Infrequent or rare across the
 State south of the Adirondacks.

Peekskill, *Mead* (Gray's Man.). Buffalo, *Clinton* (19th Rep't
 Regents 201. 1806). A weed in waste places, not common, *Taylor*
 (Fl. Vic. N. Y. 288. 1915). Albany, *Peck*. Gloversville, *Olsson*.
 Owasco lake outlet, *Dudley*. Honeoye creek, Rochester, and Rush
 (Proc. Rochester Acad. 3: 1896; 5: 28. 1910).

8 **Rumex Patientia** L. Sp. Pl. 333. 1753 Patience dock

In waste places, frequent throughout the State, especially northward and westward. Naturalized from Europe.

9 **Rumex Britannica** L. Sp. Pl. 334. 1753 Great water dock

R. hydrolapathum var. ? *americanum* Gray, Man. ed. 2, 377. 1856
R. orbiculatus A. Gray, Man. ed. 5, 420. 1867

In swamps and wet soil. Frequent or common throughout the State except the higher Adirondacks and not reported from the pine-barrens of Long Island.

10 **Rumex crispus** L. Sp. Pl. 335. 1753 Curled or narrow dock

Lapathum crispum S. F. Gray, Nat. Arr. Br. Pl. 2: 273. 1821

In fields and waste places. Common. Naturalized from Europe.

R. crispus x *Patientia* (*R. confusus*) Simonk. Termesz. füz 1: 238. 1877, is reported from Rochester. A large number of varieties and forms of the species of *Rumex* native of Europe have been described in European literature, and also a large number of hybrids are listed, some of which may be looked for in this country.

11 **Rumex sanguineus** L., l.c. 334. Bloody or red-veined dock

L. sanguineum Moench, Meth. 354. 1794

In waste places and on ballast. Adventive from Europe. Reported from the vicinity of New York City, Rochester, and in Broome and Tioga counties

12 **Rumex pulcher** L., l.c. 336 Fiddle dock

Native of Europe. Reported as a ballast plant on Staten Island
Britton & Hollick (Torr. Club Bul. 12: 40. 1885).

13 **Rumex obtusifolius** L., l.c. 335. Broad-leaved or bitter dock

L. obtusifolium Moench, l.c.
R. crispatus Michx. Fl. Bor. Am. 1: 217. 1803

Native of Europe. A common weed in waste places throughout the State.

14 **Rumex maritimus** L., l.c. 335. var. **fueginus** (Phil.) Dusen, Svenka Exped. till Magellansl. 3: 191. 1900 Golden dock

R. fueginus Phil. An. Univ. Chil. 91: 493. 1895
R. persicarioides Trel. 3d Ann. Rep't Mo. Bot. Gard. 93. 1892 — *Britton & Brown*, Illus. Fl. ed. 2, 1: 659. 1913. Not L.

Eastern shore of Great pond, Montauk pond, Long Island *Miller* (Torr. Club Bul. 7: 18. 1880): *Jelliffe* (*Torrey* 4: 99. 1904). Formerly reported as *R. maritimus* L. See *St John* (*Rhodora* 17: 77. 1915).

POLYGONUM (Tourn.) L. Sp. Pl. 359. 1753

Section I **Avicularia** Meisn*

I **Polygonum glaucum** Nutt. Gen. 1: 254. 1818

Seaside knotweed

P. marimum var. *roseum* Pursh, Fl. Am. Sept. 269. 1814

P. maritimum of N. Y. Reports, not L.

Frequent along the south shore of Long Island; less common on the north shore and rare along the coast of Staten Island. Apparently quite distinct from *P. maritimum* of Europe to which it is sometimes referred.

Polygonum Fowleri Robinson, Rhodora 4: 67. 1902 Fowler's knotwood

P. Rayi Britton & Brown, Illus. Fl. ed. 1. 1898. Not Babington

P. aviculare, var. *buxifolium* Ledeb. Fl. Ross. 3: 532. 1851

P. littorale var. *buxifolium* Meisn. in DC. Prodr. 14: 98. 1856

P. maritimum Fowler, Prel. List Pl. N. B. 53. 1885. Not L.

Reported from the coast of southern New England, northward. Not definitely known from New York, but along with the closely related *P. Roberti* Lois., may be looked for.

* A logical classification of the species and varieties of this group presents so many difficulties that the following key may be regarded as merely provisional.

Achenes conspicuously exserted

Prostrate, maritime, achenes broadly ovoid-pyramidal

Calyx lobes petaloid; foliage pale green.

P. glaucum.

Calyx lobes subherbaceous; foliage pale green.

P. Fowleri.

Erect, achenes elongated, lanceolate-pyramidal, chestnut colored

P. exsertum.

Achenes nearly or quite included in the fruiting calyx

Branches terete, usually striate

Pedicels not exserted from the ocreae, or but little so

Leaves broadly lanceolate or broader, subacute or obtuse

Stems erect or ascending

Leaves finely crisped on the margins; stems erect; achenes granular-striate, dull

P. monspeliense.

Leaves entire on margins; stems ascending; achenes smooth, shining

P. allocarpum.

Stems prostrate

Achenes broadly ovoid, more or less contracted at apex, dark-brown, dull, the face often finely granular; leaves oblong, oblong-lanceolate, oblanceolate or oval and thick

P. buxiforme.

Achenes ovoid to lanceolate

Achenes lanceolate, glossy reddish-brown and very indistinctly wrinkled

P. avic. var. crassifolium.

Achenes ovoid, granular-striate, dull; leaves elliptical-obovate, crowded and overlapping on the branches

P. avic var. arenastrum.

Leaves lanceolate to linear, acute or acuminate at apex

Stems erect or strongly ascending

Leaves lanceolate to broadly lanceolate, acute or acuminate, lower

2 *Polygonum exsertum* Small, Torr. Club Bul. 21: 172 1894
Long-fruited knotweed

In and about the borders of brackish marshes along the coastal region. Near New York City, *Bicknell* (Robinson in *Rhodora* 4: 68. 1902).

3 *Polygonum monspeliense* Tiebaud, in Pers. Syn. 1: 439. 1805
Montpelier knotweed

P. aviculare var. *vegetum* Ledeb. Fl. Ross. 3: 532. 1851—Robinson & Fernald, Man. ed. 7, 359. 1908

P. aviculare var. *monspeliense* Aschers. Fl. Prov. Brand. 1: 591. 1864

Native of Europe. Naturalized and locally abundant.

Easily distinguished by its erect habit, broad leaves with crisped margins. Varies to forms with narrower leaves. *P. monspeliense* var. *agrestinum* (Jord.) Rouy, in Rouy & Foucaud, Fl. Fr., 12: 114. 1910 (*P. agrestinum* Jord. in Bor. Fl. Centre Fr. ed. 3, 2: 559. 1857).

4 *Polygonum buxiforme* Small, Torr. Club Bul. 33: 56. 1906

This appears to be in part at least what has been variously reported as *P. littorale*, and *P. aviculare* var. *littorale*. Small's description calls for a plant with broadly ovoid, dark brown, dull achenes more or less constricted at the apex. Specimens from Long Island have chiefly dull achenes, but they are not constricted at the apex, neither would the faces be regarded as "broadly ovoid." Some speci-

ones larger and narrowed to short petioles; ocreae and stipules mostly small or medium sized.

P. avic. var. *agrarium*.

Leaves linear-oblong, obtuse or acute, veiny in dried state; flowers surpassed by the bristle-like remains of the long stipules; ocreae usually elongated.

P. proliferum.

Stems prostrate or the tips ascending

Leaves lanceolate, acute or acutish, the dull, minutely granular-striate achenes about 2 mm. long or longer.

P. aviculare.

Leaves narrowly lanceolate to linear, acute or somewhat acuminate at both ends, ocreae silvery brown, leaves of branches often conspicuously smaller and inclined to be obtuse; flowers smaller, the dull achenes 1.25 to 1.75 mm long, merely acute.

P. neglectum.

Pedicels exserted from the ocreae; flowers larger, sepals (sometimes 6) 2-3 mm long; stems erect

Leaves lanceolate, acute, sepals roseate.

P. atlanticum.

Leaves elliptical or obovate-elliptical

Plant bluish-green, ocreae persistent, lucid-scarious, not fibrillose.

P. achoreum.

Plant yellowish-green, ocreae soon more or less fibrillose.

P. erectum.

Branches strongly angled

Leaves plicate; fruiting pedicels short, erect.

P. tenue.

Leaves flat, margins revolute; fruiting pedicels long, deflexed.

P. Douglasii.

mens from the region of Oneida lake and the Great Lakes fit his description, but most of the material classified here is doubtfully distinct from *P. aviculare* var. *crassifolium*.

5 *Polygonum aviculare* L. Sp. Pl. 362. 1753

Common knotgrass, knotweed

- P. procumbens* Gilib. Exercit. Phyt. 2: 434. 1792
P. geniculatum Poir. Encycl. 6: 147. 1804
P. Centinodium Lam. Fl. Fr. 3: 237. 1805
P. aviculare var. *procumbens* Hayne, Arzeneygew. 5: 23. t. 23. 1817—
 Ledeb. Fl. Ross. 3: 532. 1851
P. provinciale K. Koch, Linnaea 22: 204. 1849
P. rurivagum Jord. in Bor. Fl. Centre Fr. ed. 3, 2: 560. 1857

A common weed in waste and cultivated ground. Variable and represented in our flora by several distinct varieties or forms, most of which are probably not indigenous, and the nomenclature of which is not entirely clear.

The typical form has leaves nearly or quite lanceolate, small or medium sized, acute or acutish, 6-25 mm long; stems prostrate; achenes minutely granular-striate, dull and included in the fruiting calyx.

Var. *crassifolium* Lange, Haandb. Danske Fl. 3: Udg. 278. 1864

- P. aviculare* var. *littorale* Koch, Syn. ed. 1, 618. 1837, and most European authors, not *P. littorale* Link (which as to type specimen is, according to Aschers. & Graebn, Syn. Mitt. Eu. Fl. 4: 860 footnote) the same as *P. maritimum* L.
P. salsuginosum Wallr. Linnaea 14: 568. 1840. Not M. Bieb.
P. Roberti Gren. & Godr. Fl. Fr. 3: 52. 1855. Not Lois.

Achenes obscurely wrinkled, distinctly shining; leaves more or less thickened, lanceolate to broadly spatulate, rounded or acute at the apex.

As indicated under *P. buxiforme* Small, some of the plants referred there are possibly this variety; certainly one from Apalachin, Tioga county, *Fenno*, belongs here, and certain plants from along the coast of Long Island, which have shining achenes, should probably also be referred here, although the achenes are not as narrow as the description calls for.

Var. *arenastrum* (Bor.) Rouy, in Rouy & Foucaud, Fl. Fr. 12:

112. 1910

- P. arenastrum* Bor. Fl. Centre Fr. ed. 3, 2: 560. 1857

A prostrate plant, with elliptical-obovate to broadly oblanceolate leaves, rounded at the apex, the entire plant pale green, the leaves on the branches crowded and overlapping.

Fields and roadsides near Albany, *House*. Doubtless elsewhere.

Var. *agrarium* K. Koch, Linnaea 22: 203. 1849

- P. erectum* Roth, Beitr. Bot. 2: 131. 1783—Tent. Fl. Germ. 1: 174. 1788—
 Not L.

- P. aviculare* var. *erectum* Hayne, l.c. 23. Ledeb., l.c. 532
P. heterophyllum Lindman, Svensk. Bot. Tidskr. 6: 684, 690. 1912, in
 large part

Stems erect or strongly ascending, often or usually with few branches; leaves lanceolate to broadly lanceolate, acute or acuminate at both ends, the lower ones usually larger and narrowed into short petioles. Resembling small-leaved forms of *P. monspeliense* except that the margins of the leaves are not crisped. Rather variable. Native of Europe. Several specimens from widely scattered localities seem referable to no other variety.

6 *Polygonum prolificum* (Small) Robinson, Rhodora 4: 68. 1902
Proliferous knotweed

P. arenarium Raf. Am. Mo. Mag. 2: 120. 1817. Not Walldst & Kit.

P. maritimum Young, Cat. Pl. Oak Isl. 14. 1883. Not L.

P. ramosissimum var. *prolificum* Small, Torr. Club Bul. 21: 271. 1894

In and along the edges of brackish marshes and on sandy soil along or near the seashore on Long Island and Staten Island. Also inland at Warsaw, Wyoming county, Peck, and Greigsville, Wyoming county, Baxter.

7 *Polygonum neglectum* Besser, Enum. Pl. Volhyn. 45. 1820

P. aviculare var. *laxum* Ledeb. Fl. Ross. 3: 532. 1851

P. aviculare var. *angustissimum* Meism. in DC. Prodr. 14: 98. 1856

P. humifusum Jord. in Bor. Fl. Centre Fr. ed. 3, 2: 560. 1857

P. aviculare var. *neglectum* Reichenb. Fl. Germ. Exs. 573. 1832

Annual, dull-green; stems prostrate or ascending and widely branched at base; leaves narrowly linear to linear-lanceolate, somewhat acuminate at both ends, those of the branches often conspicuously smaller and inclined to be obtuse; ocreae silvery-brown, elongated; flowers and fruit noticeably small; achenes striate-reticulated, ovoid, acuminate, about 1.5 mm. long.

Native of Europe. Locally common as a weed in various sections of the State.

8 *Polygonum atlanticum* (Robinson) Small, Torr. Club Bul. 36: 450. 1909
Atlantic coast knotweed

P. ramosissimum forma *atlanticum* Robinson, Rhodora 4: 72. 1902

Frequent in and along the borders of salt marshes and on moist or low brackish soil on Long Island. Probably also on Staten Island.

9 *Polygonum achoreum* Blake, Rhodora 19: 232. 1917

Distinguished from *P. erectum* by its bluish-green tint, the calyx ovoid-subfusiform, narrowly oblong crowded sepals, usually completely hiding the achene; ocreae persistent, lucid-scarious and not fibrillose; leaves elliptic, broadly rounded at apex.

Chiefly in fields and waste places from northern New England and eastern Canada, westward. Reported from near Ogdensburg, Mrs O. P. Phelps.

10 **Polygonum erectum** L. Sp. Pl. 363. 1753 Erect knotweed
In moist or dry soil. Native of Europe, and locally common as a weed in waste or cultivated ground throughout most sections of the State.

11 **Polygonum tenue** Michx. Fl. Bor. Am. 1: 238. 1803 Slender knotweed
In dry, usually stony or sandy soil. Locally common across the State from Washington and Rensselaer counties westward and southward. Not definitely reported from Long Island. Local northward to Lake Champlain and to the St Lawrence river, but apparently absent from the Adirondack region.

12 **Polygonum Douglasii** Greene, Bul. Cal. Acad. II. 1: 125. 1885 Douglas's knotweed
Rocky ledges and exposed summits of hills and mountains. Local across the northern part of the State.
Peaked mountain, Washington county, *Burnham*. Mount Defiance, and Cobble hill, Essex county, *Peck* (47th Rep't N. Y. State Mus. 17. 1894; 54th Rep't 161. 1901). Gouverneur, St Lawrence county, *Mrs O. P. Phelps*.

Section 2 **Tovara** (Adans.) A. Gray

Tovara Adans. Fam. Pl. 2: 276. 1763
Chulusium Raf. Ann. Nat. 12. 1820
Sunania Raf. Fl. Tellur. 3: 95. 1837

13 **Polygonum virginianum** L. Sp. Pl. 360. 1753 Virginia knotweed
Tovara virginiana Raf. Fl. Tellur. 3: 12. 1836

In woods and moist thickets. Frequent or common across the State outside of the higher Adirondacks.

Section 3 **Persicaria** (Tourn.) L.

Persicaria (Tourn.) Mill. Gard. Dict. Abr. ed. 4. 1754
Pentalis Raf. Fl. Tellur. 3: 14. 1837 — New Fl. Am. 4: 47. 1838

14 **Polygonum fluitans** Eaton, Man. ed. 5, 338. 1829 Water smartweed

Polygonum amphibium of N. Y. Reports, in large part; not L.
P. amphibium var. *natans* Michx. Fl. Bor. Am. 1: 240. 1803. Not Moench, 1777
P. natans Eaton, Man. ed. 3, 400. 1822.
Persicaria fluitans (Eaton) Greene, Leaflets, 1: 26. 1904. Not Montandon, Fl. Jura Sept. 268. 1856
Persicaria canadensis Greene, l.c. 28
Persicaria purpurata Greene, l.c. 27

Common in ponds, lakes and quiet waters throughout the State outside of the coastal region, where rare. Increasingly common northward and westward in the State.

Our typical plant with floating leaves, smooth above and shining, the lower surface usually reddish or purplish and gelatinous, the leaf-blades elliptical to elliptic-oblong, rounding or tapering at base, has no exact counterpart in Europe, and I follow Doctor Greene in considering it specifically distinct from the *P. amphibium* of Europe. The corresponding aquatic plant of Europe has more lanceolate leaves, often subcordate at base and with scabrous-serrulate margins.

15 *Polygonum Hartwrightii* A. Gray, Proc. Am. Acad. 8: 294.

1870

Wright's water smartweed

P. amphibium var. *Hartwrightii* Bissell, Rhodora 4: 105. 1902

Persicaria Hartwrightii Greene, Leaflets 1: 24. 1904

Persicaria abscissa Greene, l.c. 46

Persicaria asclepiadea Greene, l.c. 46

Persicaria psychrophila Greene, l.c. 31

P. amphibium f. *Hartwrightii* Blake, Rhodora 15: 164. 1913

In wet marshes and along the edge of ponds and slow streams. Locally common across the State outside of the Adirondacks and north of the coastal plain.

Stems creeping, often branched, rooting at the nodes, the ends ascending or suberect, 10-50 cm high, densely setaceous-pubescent, at least above; leaves sessile or very short petioled, the lower ones usually not longer petioled than the upper ones; blades narrowly lanceolate to lanceolate, usually with almost parallel margins, 8-15 cm long, 1-2.5 cm broad, acute or acuminate at apex, acute to obtuse at base, more or less stiffly appressed pubescent above, more densely or setaceous-pubescent beneath; ocreae with abruptly spreading foliaceous ciliated margins; spike usually somewhat longer and narrower than in *P. fluitans* and flowers usually pink or rosy in color.

Dundee, Yates county, *Wright*. Machias, Barton and Apalachin, *Fenno*. Bethlehem, Albany county, *Peck*. Junius, Seneca county, *House*, *Matthews*. Peterboro, Madison county, *House*, Jamesville, Onondaga county, *Peck*. Watkins, Schuyler county, *Peck*.

Less variable than the next species, but varies to forms almost glabrous and to forms with broader leaves with longer petioles.

16 *Polygonum inundatum* Raf. Med. Repos. (II) 5: 359. 1808

Swamp smartweed

P. amphibium var. *emersum* Michx. Fl. Bor. Am. 1: 240. 1803

P. coccineum Muhl.; Willd. Enum. 1: 428. 1809

P. emersum Britton, Trans. N. Y. Acad. Sci. 8: 73. 1889

Persicaria coccinea Greene, Leaflets 1: 24, 28. 1904

Polygonum amphibium var. *terrestre* A. Gray, Man. ed. 1-5. Not Leers (1790) nor Leyss. (1761)

P. Muhlenbergii S. Wats. Proc. Am. Acad. 14: 295. 1879

Stems at the base usually covered by mud, branching and rooting at the nodes, the terminal portions usually strictly erect 30-100 cm tall or more; nodes conspicuously enlarged, the internodes usually striate; leaves lanceolate to broadly lanceolate, usually broadest near or slightly below the middle, long acuminate at apex, blunt, rounded or subcordate at the base, appressed short setaceous above, more densely so beneath and on the midvein, 10-25 cm long, 2.5-8 cm broad; petioles usually 2-3 cm long, sometimes longer; ocreae

glabrous, tightly appressed to the stem; inflorescence usually elongated, 3-10 cm long and 6-10 mm thick, sometimes with one or two smaller spikes; flowers usually dark red, rarely paler.

The rare aquatic form is usually nearly or quite glabrous, with large ovate-lanceolate, cordate leaves on long petioles. This is well described by Greene as *Persicaria mesochroa*, aquatic stage, Leaflets 1: 28 1904, and is represented by collections in this State as follows: Schenectady, *Beck*; Lake Champlain, *Peck*; Watkins, *Peck*.

In swamps, marshes and wet soil, often in shallow water. Locally common across the State outside of the Adirondacks and on the coastal plain.

The species is variable in many particulars. The spikes are sometimes rather short and thick like *P. fluitans*, the leaves are rarely nearly glabrous, and vary considerably in shape and size and in the length of the petiole. Upon such rather minor variations Doctor Greene has based a large number of species of which the following are quite certainly referable to this type: *Persicaria rigidula*, *vestita*, *propinqua*, *mesochroa*, *fistulosa*, *novae-angliae*, *laurina*, *Porteri*, *lonchophylla*, *pratensis* and *spectabilis* (Leaflets 1: 34-39. 1904). I do not consider it possible to refer this plant to *P. amphibium* var. *terrestris* Leyss. (Fl. Hal. 391. 1761) of Europe, although it is probably in much the same relation to *P. fluitans* Eaton that the var. *terrestris* is to the aquatic form of *P. amphibium* of Europe.

17 *Polygonum scabrum* Moench, Meth. 629. 1794

Rough smartweed

P. pennsylvanicum Huds. Fl. Angl. 148. 1762. Not L.

P. Persicaria tomentosum Schrank, Baier. Fl. 1: 669. 1789

P. pallidum With. Bot. Arr. Br. Pl. ed. 3, 2: 381. 1796

P. tomentosum Gurke, Pl. Eur. 2: 121. 1897—Robinson & Fernald, Man. ed. 7, 360. 1908. Not Willd.

Persicaria tomentosa Bicknell, Torr. Club Bul. 36: 453. 1909

In moist or wet places and waste ground. Most abundant eastward and southward in the State. Infrequent westward to Lake Erie. Apparently naturalized from Europe. Closely related to the next species of which it is often considered a variety.

Var. *incanum* (F. W. Schmidt) comb. nov.

Polygonum incanum F. W. Schmidt, Fl. Boem. 4: 90. 1794

P. tomentosum incanum Gurke, l.c.

Persicaria incana S. F. Gray, Nat. Arr. Br. Pl. 2: 269. 1821

Leaves permanently woolly beneath. Occasional.

18 *Polygonum lapathifolium* L. Sp. Pl. 360. 1753

Dock-leaved or pale smartweed

P. lapathifolium var. *maculatum* Sibth. Fl. Oxon. 129. 1794

Persicaria lapathifolia & *Persicaria maculata* S. F. Gray, l.c. 270

Polygonum maculatum Babington, Man. ed. 7, 301. 1874

Polygonum incarnatum Ell. Bot. S. C. & Ga. 1: 456. 1817

In waste places, fields and roadsides. Common throughout most sections of the State. Naturalized from Europe.

Var. **nodosum** (Pers.) Weinmann, Enum. Petrop. 42. 1837

P. nodosum Pers. Syn. 1: 440. 1805

Persicaria nodosa Opiz, Seznam 72. 1852

Merely a very stout form, erect, strongly nodose with thickened stems below; leaves minutely warty but not distinctly punctate beneath. This form is regarded as the typical form of the species by some European authorities (*P. lapathifolium* var. *genuinum* Gren. & Godr. Fl. Fr. 3: 47. 1855; *P. lapathifolium* var. *typicum* Beck, Fl. Nieder.-Oesterr. 323. 1890).

Var. **punctatum** Gremli, Fl. Schweiz, 7 Aufl. 356. 1893 — Beck in Reichenb. l.c. XXIV: 185

Leaves pelucid punctate with yellow dots; flowers often dingy white to greenish. Occasional throughout our range.

19 *Polygonum pennsylvanicum* L., l.c. 362.

Pennsylvania smartweed

Persicaria pennsylvanica Small, Fl. SE. U. S. 377. 1903

Polygonum pennsylvanicum var. *genuinum* Fernald, Rhodora 19: 72. 1917

The typical form of the species is described by Fernald, as having leaves copiously strigose beneath, and often above, the uppermost ocreae eciliate or frequently bristly-ciliate, achenes 2.2-2.8 mm broad, and apparently restricted to the coastal region of the State. Patchogue, *Peck*. Long Beach, *House*.

Var. **laevigatum** Fernald, l.c. 73. Leaves glabrous or nearly so, lanceolate or broader in shape, acuminate; stems erect; spikes cylindric and long exserted. The common form which occurs almost everywhere throughout the State except in the higher Adirondacks.

Var. **nesophila** Fernald, l.c. Stems depressed or subascending; leaves elliptic to oval; spikes short ellipsoid to subglobose, short-peduncled to sessile; flowers suborbicular. A very distinct humifuse variety frequent along the moist or wet margins of ponds and inlets of the coastal region. Amagansett, *Peck*. Reported from the islands east of Long Island.

20 *Polygonum Careyi* Olney, Proc. Providence Frankl. Soc. 1:

29. 1847

Carey's smartweed

Persicaria Careyi Greene, Leaflets 1: 24. 1904

In open marshes and low meadows. Infrequent across the State from Rensselaer county to central New York, westward and southward. Probably to be found locally farther northward.

21 *Polygonum Persicaria* L., l.c. 361 Lady's thumb, heartweed

Persicaria maculosa S. F. Gray, l.c. 269

Persicaria Persicaria Small, Fl. SE. U. S. 378. 1903

Persicaria mitis Gilib. Exercit. Phyt. 2: 431. 1792

Persicaria vulgaris Webb. & Moq., in Webb. & Berth. Phyt. Canar. 3: 219. 1836-47

In waste places. A common weed. Naturalized from Europe.

Among the many varieties and forms recognized in Europe, the following are distinguishable in our range:

Var. **agreste** Meisn. in DC. Prodr. 14: 118. 1856. Stems erect or ascending; leaves often rather small and blunt, short-pubescent beneath especially on the veins.

Var. **angustifolium** Beckh. Fl. Westf. 773. 1893. Leaves very narrowly lanceolate.

Var. **ruderales** (Salisb.) Meisn., l.c. (*Polygonum ruderales* Salisb. Prodr. 259. 1796). Stems prostrate or slightly ascending; leaves often appressed pubescent.

The var **biforme** Fries, Novit. Fl. Suec. Mant. 2: 28. 1839, seems to be merely a very stout and tall form with broadly lanceolate leaves and thickened stems.

22 *Polygonum Hydropiper* L., l.c. 361

Water pepper, water smartweed

Persicaria acris Gilib., l.c. 431

Polygonum gracile Salisb. Prodr. 259. 1796

Polygonum glandulosum Poir. in Lam. Encycl. 6: 149. 1804

Persicaria Hydropiper Opiz, l.c. 72

In waste places, usually in moist or wet soil. Common in most sections of the State, except the densely forested and higher portions of the Adirondacks and Catskills. Probably in large part naturalized from Europe in this State.

The typical form in Europe is said to have broadly lanceolate leaves, broadest in the middle and tapering to each end. This is not a rare form with us, but almost equally common is a very slender plant, often little if any branched, with narrowly lanceolate to linear-lanceolate leaves and white flowers. This may be the var. **angustifolium** (Duval) A. Br. Flora 7: 357. 1824

23 *Polygonum hydropiperoides* Michx. Fl. Bor. Am. 1: 239.

1803

Mild water pepper

Polygonum mite Pers. Syn. 1: 440. 1805. Not Schrank

Persicaria hydropiperoides Small, l.c.

In swamps and wet soil. Common across the State especially north of the coastal plain. Rare or absent in the pine-barrens of Long Island.

Var. **strigosum** Small, Torr. Club Bul. 19: 355. 1892

P. hydropiperoides var. *Macounii* Small, Mem. Dep't Bot. Col. Univ. 1: 81. 1895

Stems more or less strigose pubescent, especially below. South Bay, Madison county, *House*. Brewerton, *Peck*. Probably elsewhere especially westward in the State.

Var. **opelousanum** (Riddell) W. Stone, Pl. So. N. J. 422. 1912

Polygonum opelousanum Riddell; Small, Torr. Club Bul. 19: 354. 1892

Persicaria opelousana Small, Fl. SE. U. S. 378. 1903

A slender form, usually with narrower leaves and greenish-white calyx, the ocreae copiously long-bristly. Frequent in wet soil on Long Island, Staten Island and at Van Cortlandt Park, New York City, *Taylor* (Fl. Vic. N. Y. 293. 1915). Patchogue, Long Island, *Peck*.

- 24 ***Polygonum punctatum*** Ell. Bot. S.C. & Ga. 1: 455. 1817
Dotted or water smartweed

Polygonum acre H. B. K. Nov. Gen. & Sp. 2: 179. 1817. Not Lam.

Persicaria punctata Small, Fl. SE. U. S. 379. 1903

Polygonum hydropiperoides Pursh, Fl. Am. Sept. 270. 1814. Not Mx.

P. Hydropiper Michx. Fl. Bor. Am. 1: 238. 1803. Not L.

In swamps and wet places. Frequent across the State outside of the higher Adirondacks.

Var. ***leptostachyum*** (Meisn.) Small, Torr. Club Bul. 19: 356. 1892

P. acre var. *leptostachyum* Meisn. in DC. Prodr. 14: 108. 1856

Frequent, especially southward in the State, but not always clearly separable from the typical form of the species.

- 25 ***Polygonum robustius*** (Small) Fernald, Rhodora 23: 147. 1921

P. punctatum robustius Small, Torr. Club Bul. 21: 477. 1894

Persicaria robustior Bicknell, Torr. Club Bul. 36: 455. 1909

A stouter plant than the preceeding, with long creeping or horizontal basal portions, with larger white flowers about 6 mm. broad, and larger achenes, somewhat triangular, rather dull or faintly shining and minutely granular.

Occasional or frequent on the coastal plain, and locally inland across the State.

- 26 ***Polygonum orientale*** L., l.c. 362 Prince's feather

Persicaria orientalis Spach, Hist. Nat. Veg. 10: 535. 1841

In waste places, usually as an escape from gardens. Native of India.

Section 4 ***Tiniaria*** Meisn.

Bilderdykia Dumort. Fl. Belg. 18. 1827

Tiniaria Webb. & Moq., in Webb. & Berth, Hist. Nat. Canar. 3: 221. 1836-40

- 27 ***Polygonum Convolvulus*** L., l.c. 364 Black or corn bindweed

Fagopyrum carinatum Moench, Meth. 290. 1794

F. volubile Gilib. Exercit. Phyt. 2: 435. 1792

F. Convolvulus Gross, in Bul. Geogr. Bot. 23: 21. 1913

Helxine Convolvulus Raf. Fl. Tellur. 3: 10. 1837

Bilderdykia Convolvulus Dumort., l.c.

Tiniaria Convolvulus Webb. & Moq., l.c. 221

In waste and cultivated ground. Common in most sections of the State as a naturalized weed. Native of Europe.

- 28 **Polygonum cilinode** Michx. H. Bor. Am. 1: 241. 1803
Fringed black bindweed

Helxine cilinode Raf., l.c. 10

Tinaria cilinodis Small, Fl. SE. U. S. 382. 1903

Bilderdykia cilinode Greene, Leaflets 1: 23. 1904

In rocky places. Frequent in the northern part of the State. Less common southward to the Catskill mountains and adjacent highlands of the Hudson valley. Reported from Long Island. Rare in the western part of the State (Proc. Rochester Acad. 3: 98. 1896).

In the Adirondack region there is often seen a depauperate form which is described by Peck (46th Rep't N. Y. State Mus. 49. 1893; N. Y. State Mus. Bul. 28: 120. 1899).

- 29 **Polygonum scandens** L. Sp. Pl. 364. 1753
Climbing false buckwheat

Helxine scandens Raf., l.c.

Tinaria scandens Small, l.c.

Bilderdykia scandens Greene, l.c.

Fagopyrum scandens Gross, l.c. 22

In woods and thickets. Common across the State but rare in the higher Adirondacks and absent from the pine-barrens of Long Island.

- 30 **Polygonum dumetorum** L. Sp. Pl. ed. 2, 522. 1763
Copse or hedge bindweed

Fagopyrum dumetorum Schreb. Spicil. Fl. Lips. 42. 1771

F. membranaceum Moench, Meth. 290. 1794

Helxine dumetorum Raf., l.c.

Tinaria dumetorum Opiz, Seznam 98. 1852

Bilderdykia dumetorum Dumort., l.c.

In thickets and in woods. Locally frequent across the State but not reported from the higher Adirondacks. Usually appearing as a weed and doubtless in the East at least naturalized from Europe.

Forma **cristatum** (Engelm. & Gray) Robinson, Rhodora 10: 31
1908

Polygonum cristatum Engelm. & Gray, Bost. Jour. Nat. Hist. 5: 259. 1847
Tinaria cristata Small, l.c.

In sandy soil in woods and on rocky banks. Frequent on Long Island and locally northward into Westchester county. Differs from the typical species chiefly in having toothed calyx-wings, often however, scarcely distinguishable from the typical form of the species. Apparently native.

Section 5 **Echinocaulon** Meisn.

Tracaulon Raf. Fl. Tellur. 3: 13. 1836

Tasoba Raf., l.c. 94

31 *Polygonum sagittatum* L. Sp. Pl. 363. 1753

Arrow-leaved tear thumb

Tracaulon sagittatum Small, Fl. SE. U. S. 381. 1903

In wet soil, usually in woods or thickets and borders of swamps, lakes or ponds. Common throughout the State except in the pine-barrens of Long Island, and absent in the Adirondacks above 3,000 feet altitude.

32 *Polygonum arifolium* L. Sp. Pl. 364. 1753

Halberd-leaved tear thumb

Tracaulon arifolium Raf. Fl. Tellur. 3: 13. 1836

In moist or wet soil, chiefly in woods, thickets, marshes and borders of lakes, ponds and streams. Frequent across the State outside of the Adirondack region, and increasingly common southward.

Section 6 *Pleuropterus* (Turcz.) Benth. & Hook.*Pleuropterus* Turcz. Bul. Soc. Nat. Mosc. 21¹: 587. 184833 *Polygonum Zuccarinii* Small, Mem. Dept. Bot. Columbia Univ.

1: 158. pl. 66. 1895

Japanese knotweed

Polygonum cuspidatum Sieb. & Zucc. Fl. Jap. Fam. Nat. 2: 84. 1846. Not Willd. 1825*P. Sieboldii* Meisn. in DC. Prodr. 14: 136. 1856. Not *P. Sieboldii* Meisn., l.c. p. 133*Pleuropterus Zuccarinii* Small, in Britton & Brown, Illus. Fl. Ed. 2, 1: 676. 1913

Native of Japan. Locally common as an escape from cultivation northward to Albany county and westward to Lake Erie.

FAGOPYRUM (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754*Helxine* (L.) Kuntze, Rev. Gen. Pl. 553. 1891

In the character of the flowers and fruit as well as in general appearance of no greater generic distinctness from *Polygonum*, than the various sections of *Polygonum* from each other. As a genus distinct from *Polygonum*, the genus *Fagopyrum* rests mainly upon the character of the embryo and endosperm.

1 *Fagopyrum Fagopyrum* (L.) Karst. Deutsch. Fl. 522. 1882

Buckwheat

Polygonum Fagopyrum L. Sp. Pl. 364. 1753*F. vulgare* Hill, Brit. Herb. 1756*F. esculentum* Moench, Meth. 290. 1794*Helxine Fagopyrum* Kuntze, l.c.

In waste places and persistent in and about fields after cultivation. Native of eastern Europe and western Asia.

- 2 **Fagopyrum tataricum** (L.) Gaertn. Fr. & Sem. 2: 182. pl. 189.
f. 6. 1791 Tartarian buckwheat

Polygonum tataricum L. l.c.
Helxine tartarica Kuntze, l.c.

In waste places. Occasionally persistent after cultivation or spreading into waste ground, especially northward in the State. Native of Asia.

POLYGONELLA Michx. Fl. Bor. Am. 2: 240. 1803

- Lyonia* Raf. Med. Repos. II. 5: 353. 1808
Polygonella Raf. Am. Mo. Mag. 2: 266. 1818
Gonopyrum Fisch. & Mey. in C. A. May. Mem. Acad. St Petersburg. VI.
6: 144. 1840. Not *Gonopyros* Raf. 1828
Psammogonum Nieuwl. Am. Mid. Nat. 3: 171. 1914

- Polygonella articulata** (L.) Meisn. Gen. 2: 228. 1836-48
Coast jointweed

Polygonum articulatum L. Sp. Pl. 363. 1753
Gonopyrum articulatum Fisch. & Mey., l.c.
Psammogonum articulatum Nieuwl., l.c.

In sandy soil on Long Island and Staten Island, and northward into Westchester county. Also a single station in Ulster county, *Taylor*. Common on the sandy plains between Albany and Schenectady, in Saratoga county, east and north of Oneida lake in Oneida and Oswego counties, and in sandy places along the Ontario lowlands from Jefferson county westward to the Niagara river, and along Lake Erie.

- Family 15 **AMARANTHACEAE** J. St. Hil. Expos. Fam. 1: 204

1805

Amaranth family

AMARANTHUS (Tourn.) L. Sp. Pl. 989. 1753

Galliardia Bub. Fl. Pyren. 1: 184. 1897

- 1 **Amaranthus retroflexus** L. Sp. Pl. 991. 1753
Green amaranth, red root

G. scabra Bub., l.c. 187

A common weed in cultivated and waste soil. Naturalized from tropical America.

- 2 **Amaranthus hybridus** L., l.c. 990 Spleen amaranth

A. paniculatus L. Sp. Pl. Ed. 2, 1406. 1763
A. chlorostachys Willd. Amaranth. 34. pl. 10. f. 19. 1790

A weed in waste grounds. Frequent or common especially southward in the State.

Forma **hypochondriacus** (L.) Robinson, *Rhodora* 10: 66. 1908.
A. hypochondriacus L. Sp. Pl. 991. 1753

Prince's feather. Occasional in cultivation, and sometimes found as an escape or rarely naturalized. Native of tropical America.

3 **Amaranthus spinosus** L., l.c. 991 Spiny or thorny amaranth
 In waste or cultivated ground. Infrequent or rare as a naturalized or adventive weed. Native of tropical America.

4 **Amaranthus blitoides** S. Wats. Proc. Am. Acad. 12: 273. 1877
 Prostrate amaranth
 Adventive from west of the Rocky mountains and common as a weed in waste ground and about railroad yards, especially in and about the larger cities and towns.

5 **Amaranthus graecizans** L., l.c. 990 Tumbleweed
A. albus L. Sp. Pl. Ed. 2, 1404. 1763
G. albida Bub., l.c. 185

In waste and cultivated ground. Common or frequent as a naturalized weed especially about cities and towns. Native of the western United States.

6 **Amaranthus lividus** L. Sp. Pl. 990. 1753 Purplish amaranth
Euxolus lividus Moq. in DC. Prodr. 13¹: 275. 1849

In waste places, chiefly as a waif, about New York City and rarely elsewhere. Native of tropical America.

7 **Amaranthus deflexus** L. Mant. 2: 295. 1771
 Low amaranth
Euxolus deflexus Raf. Fl. Tellur. 3: 42. 1836

In waste places and on ballast about New York City and Albany. Infrequent. Probably adventive from Europe.

8 **Amaranthus crispus** (Lesp. & Thev.) A. Br.; Gray, Man. ed. 6, 428. 1890 Crisp-leaved amaranth
Euxolus crispus Lesp. & Thev. Bul. Soc. Bot. France 6: 656. 1859
Albersia crispa Aschers.; Hausskn. in Ber. deutsch. Bot. Ges. 8: 121. 1890

In waste places. Adventive or naturalized near Brooklyn, Yonkers and Albany. Native region unknown.

9 **Amaranthus pumilus** Raf. Med. Repos. (II) 5: 360. 1808
 Coast amaranth

Rare on the sea beaches of southern Long Island. Not reported from the north shore of Long Island nor from Staten Island.

FROELICHIA Moench, Meth. 50. 1794

Froelichia gracilis Moq. in DC. Prodr. 13²: 420. 1849

Native from Nebraska and Colorado south to Missouri and Texas. Adventive and spreading along railroad yards at Despatch, Monroe county, *D. M. White*, 1920.

ACNIDA L. Sp. Pl. 1027. 1753

1 **Acnida cannabina** L., l.c. Salt-marsh water hemp

A. rusocarpa Michx. Fl. Bor. Am. 2: 234. pl. 50. 1803

A. salicifolia Raf. Am. Mo. Mag. 2: 43. 1817

In salt marshes and brackish soil along the Atlantic and Long Island Sound coasts, and up the Hudson river to New Baltimore, Greene county, *Howe* (25th Rep't N. Y. State Mus. 107. 1873).

2 **Acnida tuberculata** Moq. in DC. Prodr. 13²: 278. 1849

Rough-fruited water hemp

Montelia tamarascina 19th Rep't N. Y. State Mus. 201. 1866—31st Rep't 52. 1879

In swamps, marshes and on river shores and in sandy soil. Infrequent and doubtfully native in the region north of the coastal plain. Occasional in waste places in the southern part of the State, and probably not native (according to Taylor).

Var. **prostrata** (Uline & Bray) Robinson, *Rhodora* 10: 32. 1908 (*A. tamarascina* var. *prostrata* Uline & Bray, Bot. Gax. 20: 158. 1895). Infrequent as an adventive in the St Lawrence basin. Native of the southwestern states. Reported from DeKalb, St Lawrence county, *Mrs O. P. Phelps*.

Family 16 **CHENOPODIACEAE** Dumort. Anal. Fam. 15. 1829

Goosefoot family

CHENOPODIUM (Tourn.) L. Sp. Pl. 218. 1753

Section **Chenopodiastrum** Moq.

Vulvaria Bub. Fl. Pyren. 1: 174. 1897

Oligandra Less. Linnaea 9: 199. 1834

Lipandra Moq. Chen. Enum. 19. 1840

1 **Chenopodium Vulvaria** L., l.c. 220

Stinking goosefoot

Vulvaria vulgaris Bub., l.c. 175

In waste ground about the larger cities and towns and along railroads. Adventive or naturalized from Europe.

- In woods and thickets, sometimes in waste places and in fields. Frequent or common in most sections of the State and apparently indigenous.

- In waste places and along railroads. Frequent, especially about New York City. Less common northward and westward in the State. Adventive or naturalized from Europe.

- In waste places, especially about cities and towns or as a railroad weed. Infrequent. Adventive or naturalized from Europe.

- In waste places. A common weed almost everywhere except in deep primeval forests. Naturalized from Europe. Consists of several races or varieties, the most distinct one recognized being var. **viride** (L.) Moq., l.c. 71.

Chenopodium Berlanderi Moq. Enum. Chenop. 23. 1840, a somewhat doubtful species, and perhaps only a variety of *C. album* L., is sparingly naturalized or adventive from the southwest about cities and towns of southern New York, and more rarely elsewhere.

- In waste places, especially about the larger cities and towns and on ballast. Occasional or locally frequent. Native of Europe.

- In open woods, thickets, and also in waste ground. Frequent or common across the State outside of the higher Adirondacks and apparently indigenous.

- 8 **Chenopodium polyspermum** L., l.c. 220 Many-seeded goosefoot
Lipandra atriplicioides Moq., l.c.
Oligandra atriplicioides Less., l.c.

In waste places and on ballast. Infrequent or rare in the southern part of the State. Onondaga county, *S. N. Cowles* (26th Rep't N. Y. State Mus. 48. 1874). Adventive from Europe.

- 9 **Chenopodium Boscianum** Moq. *Chenop. Enum.* 21. 1840
Bosc's goosefoot

In woods and thickets in southern New York. Infrequent.

Westchester and Bronx counties and on Staten Island, *Taylor* (Fl. Vic. N. Y. 297. 1915). Rockaway, Long Island, *Hulst* (*Torrey* 2: 51. 1902).

- 10 **Chenopodium leptophyllum** Nutt.; Moq. in DC. *Prodr.* 13²: 71. 849
Narrowed-leaved goosefoot

Usually in sandy or brackish soil. Infrequent or rare along the Atlantic coast on Long Island, about New York City, and on the shores of Lake Erie.

Section **Ambrina** (Spach) Volkens

Ambrina Spach, *Hist. Veg. Phan.* 5: 295. 1836

- 11 **Chenopodium ambrosioides** L., l.c. 219
Mexican tea

Ambrina ambrosioides Spach, l.c. 298

Vulvaria ambrosioides Bub., l.c. 176

In waste places. Frequent across the State, especially in waste ground and along railroads and railroad yards. Naturalized from tropical America. Var. **anthelminticum** (L.) A. Gray (*A. anthelminticum* L., l.c.), not always clearly distinct from the typical species, is also frequent.

Section **Botrydium** (Spach) Volkens

Botrydium Spach, l.c. 298

- 12 **Chenopodium Botrys** L., l.c. 219.
Feather geranium, Jerusalem oak

Ambrina Botrys Moq., *Chenop. Enum.* 37. 1840

Botrydium aromaticum Spach, l.c. 299.

Vulvaria Botrys Bub., l.c. 177

In waste places. Frequent, especially along railroad yards, in waste ground about cities and towns, and in sandy soil along the shores of Lake Ontario. Naturalized from Europe.

Section **Blitum** (L.) Volkens

Blitum L. *Sp. Pl.* 2. 1753

Morocarpus Adans. *Fam. Pl.* 2: 261. 1763

- 13 **Chenopodium capitatum** (L.) Aschers. Fl. Brand. 572. 1854
Strawberry blite or spinach

Blitum capitatum L., l.c.

Morocarpus capitatus Scop. Fl. Carn. ed. 2, 1: 6. 1772

In dry soil, chiefly in thickets, open woods and in old fields or openings in the forest. Infrequent across the State.

Schenectady, *Pearson*; Otsego county, *Cooper*, *Lathrop*; Oriskany, *Kneiskern*; Rome, *Beck*; Bridgewater, *Gray*; Penn Yan, *Sartwell*; Greece, Monroe county, *Bradley* (Paine, Cat. Pl. Oneida Co. 119. 1865). Western New York and Oneida county, *Torrey* (Fl. N. Y. 2: 136. 1843). Scarce, a few localities cited for Cayuga and Tompkins counties, *Dudley* (Cayuga Fl. 76. 1886). Rare in Erie, Cattaraugus and Chautauqua counties, *Day* (1883). Oakland, *Graves* (Clute, Fl. Upper Susquehanna 89, 189. 1898). Keene Valley, *Whceler*. Lake Bonaparte, Lewis county, *House*. Harrisville, *Peck*. Raquette lake, *Peck*. Lowville, *Peck*. Oswego, *Sheldon*. Below Watertown, *House*. Woodville, Jefferson county, *House*. Newcomb and Boreas river, Essex county, *House*.

- 14 **Chenopodium virgatum** (L.) Thunb. in Nov. Act. Soc. Sc. Ups. 7: 143. 1815

Blitum virgatum L., l.c. 4

Native of the Old World, and reported as adventive near New York City.

Section **Pseudoblitum** Benth. & Hook.

Orthospermum Opiz, Seznam 70. 1852

- 15 **Chenopodium rubrum** L. Sp. Pl. 218. 1753
Red goosefoot, pigweed

Blitum maritimum Nutt. Gen. Add. 12. 1818

B. rubrum Reichenb. Fl. Germ. Exs. 582. 1830-32

Orthospermum rubrum Opiz, l.c. 70

Blitum polymorphum C. A. Mey, Fl. Alt. 1: 13. 1829

Infrequent or rare in the salt-marshes along the coast of Long Island and Staten Island, and inland on the shores of Onondaga lake, and at Montezuma.

- 16 **Chenopodium glaucum** L., l.c. 220 Oak-leaved goosefoot

Blitum glaucum Koch, Syn. Fl. Germ. 608. 1837

Orthospermum glaucum Opiz, l.c. 71

A weed in waste places, especially where the soil is more or less brackish, as in the Montezuma marshes, Cayuga Bridge, shore of Onondaga lake, and sometimes along railroad tracks. Naturalized from Europe.

Section **Agathophyton** (Moq.) Volkens

Agathophyton Moq. in Ann. Sc. Nat. II. 1: 291. t. 10c. 1834

Orthosporum T. Nees, Gen. Fl. Germ. Monochl. n. 58. 1835

Anserina Dumort. Fl. Belg. 21. 1827

17 **Chenopodium Bonus-Henricus** L., l.c. 218

Good King Henry, perennial goosefoot

Anserina Bonus-henricus Dumort., l.c.

Blitum Bonus-henricus Reichenb., l.c.

Orthospermum Bonus-henricus Schur. in Verh. Siebenb, Ver. Naturw. 4: 63.

1853

Orthosporum Bonus-henricus T. Nees, l.c.

In waste places and cultivated ground. Infrequent across the State, outside of the higher mountains, and chiefly about cities and towns. Naturalized from Europe.

ROUBIEVA Moq. Ann. Sc. Nat. II. 1: 292. 1834

Roubieva multifida (L.) Moq., l.c. 293. t. 10

Cut-leaved goosefoot

Chenopodium multifidum L., l.c. 220

Orthospermum multifidum Kostel. Allg. Med.-Pharm. Fl. 4: 1434

Ambrina pinnitisepta Spach, l.c. 296

In waste places and on ballast about New York City, Adventive from tropical America.

Volkens (in Engler & Prantl), places this genus in the section *Ambrina* of *Chenopodium*, where it apparently belongs. if *Blitum* is also to be merged into *Chenopodium*.

CYCLOLOMA Moq. Enum. Chenop. 17. 1840

Cycloloma atriplicifolia (Spreng.) Coult. Torr. Club Mem. 5:

143. 1894

Winged pigweed, tumbleweed

Kochia atriplicifolia Spreng. Nactr. Fl. Hal. 2: 35. 1801

Cycloloma platyphyllum Moq., l.c. 18.

In waste places and along railroads. Reported from about New York City, Albany, Rochester and Buffalo. Adventive from the western states.

BASSIA All. Misc. Taur. 3: 177. t. 4, f. 2. 1766

Bassia hirsuta (L.) Aschers. in Schweinf. Beitr. Fl. Aeth. 187.

1867.

Chenopodium hirsutum L. Sp. Pl. 201. 1753

Suaeda hirsuta Reichenb. Fl. Germ. Exs. 580. 1832

Long Beach, Nassau county, and Gilgo beach, Suffolk county, House 9797, August 17, 1923.

Native of sandy maritime situations throughout most of Europe. Apparently naturalized within recent years on the Atlantic coast from New England to New Jersey. See *Rhodora* 11: 120, 121, 1909. For Complete synonymy see Pl. Exs. Grayanae No. 206, and Aschers. & Graebner, Syn. Mittleeu. Fl. 5: 164. 1913.

KOCHIA Roth.; Schrad. Jour. Bot. 1: 307. *pl. 2.* 1799

Kochia scoparia (L.) Roth; Schrad. Neues Jour. Bot. 3: 85. 1809

Kochia, Belvedere cypress

Chenopodium scoparium L. Sp. Pl. 221. 1753

In waste places. Infrequent. Adventive from Europe on Long Island, about New York City and Rochester. Occasional in cultivation.

MONOLEPIS Schrad. Ind. Sem. Gott. 4. 1830

Monolepis Nuttalliana (R. & S.) Greene, Fl. Francis. 168. 1891

Monolepis

Blitum chenopodioides Nutt. Gen. 1: 4. 1818. Not Lam. 1783

B. Nuttallianum R. & S. Mant. 1: 65. 1822

Monolepis chenopodioides Moq. in DC. Prodr. 13²: 85. 1849

Native of the western states and adventive at Rochester (Proc. Rochester Acad. 5: 27. 1910).

ATRIPLEX (Tourn.) L. Sp. Pl. 1052. 1753

Obione Gaertn. Fr. 2: 198. *t. 126.* 1791

Schizotheca Lindl. Veg. Kingd. 513. 1847

1 *Striplex rosea* L. Sp. Pl. ed. 2, 1493. 1793 Red orache

Native of Europe and reported as adventive about New York City and at Rochester.

2 *Atriplex hastata* L. Sp. Pl. 1053. 1753 Halberd-leaved orache

A. dioica and *halimoides* Raf. Am. Mo. Mag. 2: 119. 1817

A. patula var. *hastata* Gray, Man. ed. 409. 1867

A. laciniata Pursh, Fl. Am. Sept. 199. 1814. Not L.

A. Purshiana Moq. Enum. Chenop. 55. 1840

S. hastata Fourr. Ann. Linn. Soc. Paris, N. S. 17: 143. 1869

In salt marshes and waste places. Abundant along the Atlantic coast, and in marshes and shores about Onondaga lake, the Montezuma marshes, Lake Ontario, and elsewhere. Occasional as a weed in waste places, and wholly or in large part naturalized from Europe.

3 *Atriplex patula* L., l.c. Seaside orache

A. erecta Huds. Fl. Angl. 376. 1762

A. angustifolia Sm. Fl. Brit. 1092. 1805

A. mucronata Raf. Am. Mo. Mag. 2: 119. 1817

A. laciniata var. *americana* Torrey, Fl. U. S. 1: 293. 1824

A. patula var. *littoralis* Gray, l.c.

S. patula Fourr., l.c.

In salt meadows, marshes and waste places, chiefly near the atlantic coast of Long Island and Staten Island and along the adjacent shores. Inland at Albany, Onondaga lake and other localities. Passing into var. *littoralis* (L.) A. Gray (*A. littoralis* L., l.c. 1054) with linear-lanceolate or linear leaves, and which appears to be much less abundant.

4 **Atriplex tatarica** L., l.c. 1053

Native of Asia and reported as adventive near New York City.

5 **Atriplex laciniata** L., l.c. 1053

Native of Europe and reported as adventive near New York City.

6 **Atriplex nitens** Schkuhr. Handb. 3: 541. 1803

Native of Europe and reported as adventive in the vicinity of New York City.

7 **Atriplex hortensis** L., l.c.

Native of the Old World. Occasional in cultivation and reported as established at High Bridge, Onondaga county, *Rust* (N. Y. State Mus. Bul. 2: 55. 1887).

8 **Atriplex arenaria** Nutt. Gen. 1: 198. 1818 Seaside atriplex
Obione arenaria Moq., l.c. 71

Frequent or common along the coast of Long Island and Staten Island and up the Hudson river to Yonkers, usually on sandy beaches.

Gomphrena globosa L. (Globe Amaranth), and **Celosia cristata** L. (Cockscomb), common in cultivation, have been reported as escapes or waifs near New York City.

CORISPERMUM (A. Juss.) L. Sp. Pl. 4. 1753

Corispermum hyssopifolium L., l.c.

Bugseed, bugweed, tumbleweed

C. squarrosus Vahl, Enum. 1: 16. 1804

C. patens Fisch. in R. & S. Syst. 1: 579. 1820

Native of the western and southern states and in Europe and Asia. Adventive near New York City.

SALICORNIA (Tourn.) L. Sp. Pl. 3. 1753

1 **Salicornia europaea** L., l.c.

Slender or jointed glasswort

S. europaea var. *herbacea* L., l.c.

S. herbacea L. Sp. Pl. ed. 2, 5. 1762

S. virginica L. Sp. Pl. 4. 1753

S. annua Sm. Engl. Bot. t. 415. 1797

Sarcathria virginica Raf. Fl. Tellur. 3: 47. 1836

In salt marshes along the coast of Long Island and Staten Island and less commonly in the Bronx and up the Hudson river as far as salt water extends. Also in the marshes at Onondaga lake and Ithaca.

Var. *pachystachya* (Koch) Fernald, *Rhodora* 9: 206. 1907 (*S. herbacea* var. *pachystachya* Koch, Syn. ed. 2, 693. 1844), frequent but not always clearly distinguished from the typical species.

2 *Salicornia Bigelovii* Torrey, Bot. Mex. Bound. 184. 1858
Bigelow's glasswort

S. mucronata Bigel. Fl. Bost. ed. 2, 2. 1824. Not Lag. 1817

S. virginica Moq. in DC. Prodr. 13²: 145. 1849. Not L.

Frequent on the tidal marshes of Long Island and rare on Staten Island.

3 *Salicornia perennis* Mill. Gard. Dist. ed. 8, No. 2. 1768
Woody or perennial glasswort

S. fruticosa With. Brit. Pl. ed. 2, 1: 3. 1787. Not L.

S. ambigua Michx. Fl. Bor. Am. 1: 2. 1803

Sarcathria ambigua Raf., l.c. 47

On seabeaches and salt meadows. Infrequent or local along the coast of Long Island and Staten Island.

DONDIA Adans. Fam. Pl. 2: 261. 1763

Suaeda Forsk. Fl. Aeg. Arab. 69. pl. 18b. 1775

Lerchea [Hall. 1751] Kuntze, Rev. Gen. Pl. 549. 1891

1 *Dondia linearis* (Ell.) Heller, Cat. N. Am. Pl. 69. 1900
Tall sea blite

Salsola linearis Ell. Bot. S. C. & Ga. 1: 332. 1821

Suaeda linearis Moq. Chenop. Monog. 130. 1840

Suaeda maritima Torrey, Fl. N. Y. 2: 141. 1843

D. americana Britton; Britton & Brown, Illus. Fl. 1: 584. 1896 (excl. syn. Pers.)

On salt marshes, beaches and along salt water ditches, frequent or common along and near the coast of southeastern New York.

2 *Dondia maritima* (L.) Druce, Ann. Scot. Nat. Hist. 1896: 42.
1896 Low or annual sea blite

Chenopodium maritimum L. Sp. Pl. 221. 1753

Suaeda maritima Dumort. Fl. Belg. 22. 1827

Salsola maritima Poir. Encycl. 7: 291. 1806

Lerchea maritima Kuntze, l.c.

Frequent in the coastal marshes of Long Island. Scarce on Staten Island.

SALSOLA L. Sp. Pl. 222. 1753

1 **Salsola Kali** L., l.c. Saltwort, prickly glasswort

S. tragus L. Sp. Pl. ed. 2, 322. 1762

S. caroliniana Walt. Fl. Car. 111. 1788

S. carolina Michx. Fl. Bor. Am. 1: 174. 1803

Frequent on the sea beaches and in sandy soil near the coast of Long Island and Staten Island. Reported from the Hudson river north to the highlands.

2 **Salsola pestifer** A. Nels. Rocky Mt Bot. 169. 1909

Russian thistle or cactus

S. kali var. *tenuifolia* F. W. Meyer, Chlor. Han. 470. 1836

In cultivated fields and waste places, especially along railroads and where the soil is sandy. Naturalized from northern Europe or Asia and becoming very common in many sections of the State.

Family 17 **PETIVERIACEAE** Link, Handb. 1: 392. 1829

PHYTOLACCACEAE Lindl. Nat. Syst. ed. 2, 213. 1836

Pokeweed family

PHYTOLACCA L. Sp. Pl. 41. 1753

Phytolacca americana L., l.c. Pokeweed, scoke, pigeon berry

P. decandra L. Sp. Pl. ed. 2, 631. 1762

In various situations throughout the State. A common weedlike plant in fields, waste places and open woods. Mrs Phelps reports finding this species only once in St Lawrence county.

Family 18 **CORRIGIOLACEAE** Reichenb.; Moessl. Handb. 1:

Pt. 1, 51. 1827

Whitlow-wort family

ANYCHIA Michx. Fl. Bor. Am. 1: 112. 1803

1 **Anychia polygonoides** Raf. Atl. Journ. 1: 16. 1832

Forked chickweed

A. canadensis Ell. Bot. S. C. & Ga. 1: 307 (as to plant described, not as to synonymy), 1817

A. dichotoma DC. Prodr. 3: 369; Gray, Man. ed. 1-6; Britton & Brown, Illus. Fl. Ed. 1. Not Michx.

Queria canadensis Nutt. Gen. 1: 158. 1818. Not L.

A. fastigiata, conferta & lateralis Raf., l.c.

Paronychia canadensis Wood, Bot. & Flor. 58. 1870

A. divaricata Raf. New Fl. 4: 42. 1836

In dry woods, thickets and open places. Frequent or local, on the north side of Long Island, on Staten Island and in Bronx and Westchester counties.

2 **Anychia dichotoma** Michx. Fl. Bor. Am. 1: 113. 1803

Slender forked chickweed

Queria canadensis L. Sp. Pl. 90. 1753

Q. dichotoma Moench, Meth. 351. 1794

Q. canadensis var. *capillacea* Eaton, Man. ed. 4, 422. 1824

A. capillacea Nutt. Gen. 1: 158. 1818

A. canadensis B. S. P., Prel. Cat. N. Y. 44. 1888; Britton & Brown, Illus. Fl. ed. 2, 2: 30. 1913. Not Ell.

In dry woods and on rocky banks and ledges. Frequent across the State north of the coastal plain and south of the Adirondacks.

SCLERANTHUS L. Sp. Pl. 406. 1753

Scleranthus annuus L., l.c.

Knawel, German knotgrass

Locally abundant as a weed, especially in fields and waste places, often in streets of towns and cities. Naturalized from Europe.

Family 19 **ALLIONIACEAE** Reichb. Consp. 85. 1828

NYCTAGINACEAE Lindl. Nat. Syst. ed. 2, 213. 1836

Four-o'clock family

ALLIONIA Loebl.; L. Syst. ed. 10, 890. 1759

Oxybaphus L'Her.; Willd. Sp. Pl. 1: 185. 1797

Calymenia Pers. Syn. 1: 36. 1805

1 **Allionia hirsuta** Pursh, Fl. Am. Sept. 728. 1814

Hairy umbrellawort

O. hirsutus Choisy, in DC. Prodr. 13²: 433. 1849

Calymenia pilosa Nutt. Gen. 1: 26. 1818

Mirabilis hirsutus MacM. Met. Minn. 217. 1892

Native of the middle and western states. Adventive or naturalized along railroads and in waste ground about cities and towns across the State, especially near Buffalo, Rochester, Oneida and Albany.

2 **Allionia nyctaginea** Michx. Fl. Bor. Am. 1: 100. 1803

Narrow-leaved umbrellawort

O. nyctaginea Sweet, Hort. Brit. 429. 1830

Calymenia nyctaginea Nutt., l.c.

Mirabilis nyctagineus MacM., l.c.

Native of the middle and western states. Adventive in western New York, near New York City, at Greendale, Columbia county, and doubtless of elsewhere.

Allionia albida Walt., and **A. linearis** Pursh, are occasionally adventive in the eastern states and may be looked for in New York. **Mirabilis Jalapa** L. native of the American tropics, has been found as a waif near New York.

Family 20 **TETRAGONIACEAE** Reichb., Moessl. Handb. 1: 52
1827

AIZOACEAE A. Br.; Aschers. Fl. Brand. 60. 1864

Carpetweed family

SESUVIUM L. Syst. ed. 10, 1058. 1759

Sesuvium maritimum (Walt.) B. S. P. Prel. Cat. N. Y. 20. 1888
Sea purslane

Pharnaceum maritimum Walt. Fl. Car. 117. 1788
S. pentandrum Ell. Bot. S. C. & Ga. 1: 556. 1821

In sand along the seashore of eastern Long Island.

MOLLUGO L. Sp. Pl. 89. 1753

Mollugo verticillata L., l.c. Carpet weed

Native of the warmer parts of America. Naturalized as a common weed in most parts of the State, in waste places and cultivated grounds and on the shores of lakes, ponds and streams, where it appears as though indigenous.

Two additional members of this family: **Trianthema portulacastrum** L., and **Tetragonia expansa** Murr., the latter known as New Zealand spinach, have been reported along the eastern seaboard as waifs.

Family 21 **PORTULACACEAE** Reichenb. Consp. 161. 1828

Purslane family

CLAYTONIA (Gronov.) L. Sp. Pl. 204. 1753

1 **Claytonia virginica** L., l.c. Spring beauty, May or grass flower

C. acutiflora Sweet, Hort. Brit. ed. 2, 1830
C. grandiflora Sweet, Br. Fl. Gard. Ser. 2, 216. 1831-1838

In moist woods. Frequent across the State outside of the Adirondack region, usually in rich, alluvial or lowland woods. Extending northward to Lake Champlain in the east and to St Lawrence county in the west. Common southward but not found south of the moraine on Long Island.

2 **Claytonia caroliniana** Michx. Fl. Bor. Am. 1: 160. 1803

Carolina or wide-leaved spring beauty

C. virginica var. *latifolia* Torr. Fl. N. & Mid. U. S. 1: 259. 1824

In damp woods. Common across the State northward, usually in upland woods. Infrequent in the Ontario lowlands and rare in the southern part of the State. Not reported south of Putnam, Ulster, and Delaware counties.

PORTULACA (Tourn.) L. Sp. Pl. 445. 1753

- 1 **Portulaca oleracea** L., l.c. Pussley, purslane

Common, usually as a weed in waste and cultivated ground. Naturalized from the south.

- 2 **Portulaca pilosa** L., l.c. Hairy Portulaca

Native of the southern states and occasional as a waif in southern and eastern New York.

Portulaca grandiflora Hook. Bot. Mag. *pl.* 2885. 1829. The garden portulaca or sun plant, is common in cultivation and is occasionally persistent in waste places or found as an escape.

Family 22 **ALSINACEAE** Wahl. Fl. Suec. 2: LXXIV. 1824

Chickweed family

STELLARIA L. Sp. Pl. 421. 1753

Myosoton Moench, Meth. 225. 1794

Spergulastrum Michx. Fl. Bor. Am. 1: 275. 1803

Larbrea A. St. Hil. Mem. Mus. Paris 2: 287. 1815

Stellularia (L., 1748), Kuntze, Rev. Gen. Pl. 1: 52. 1891

Alsine, Britton & Brown, Illus. Fl. ed. 2, 1913. Not *Alsine* L.

Sect. **Myosoton** Pax

- 1 **Stellaria aquatica** (L.) Scop. Fl. Carn. ed. 2. 1: 319. 1772

Water mouse-ear chickweed

Cerastium aquaticum L. Sp. Pl. 439. 1753

Myosoton aquaticum Moench, l.c.

Larbrea aquatica Ser. in DC. Prodr. 1: 395. 1824

Alsine aquatica Britton, Torr. Club Mem. 5: 356. 1894

In wet places and in moist or muddy waste soil. Adventive or naturalized from Europe. Infrequent, but reported from many localities across the State.

Section **Eustellaria** Pax

- 2 **Stellaria uliginosa** Murr. Prodr. Goett. 55. 1770

Bog starwort, marsh chickweed

Larbrea bracteata Reichenb. Ic. Fl. Germ. 15: 36. *t.* 226. 1837

L. aquatica A. St. Hil., l.c. 261

- S. Alsine* Hoffm. Deutsch. Fl. ed. 1: 153. 1791
L. uliginosa Hook. Fl. Bor. Am. 1: 93. 1830
S. borealis Darl. Fl. Cest. 274. 1837
Alsine uliginosa Britton, Torr. Club Mem. 5: 150. 1894
S. aquatica Poll. Hist. Pl. Palat. 1: 429. T. & G., Fl. N. Am. 1: 186. 1838
S. brevifolia Gilib. Fl. Lituan. 2: 151. 1781
S. Dilleniana Leers, Fl. Herborn. 107. 1775
S. fontana Wulf. in Jacq. Coll. 1: 327. 1786

In cold springs and brooks. Rare and local.

Orange, Sullivan and Delaware counties, within the drainage of the Delaware river, and at Queens, Long Island, *Taylor* (Fl. Vic. N. Y. 305. 1915). Rossville, Staten Island, *Hollick & Britton* (Torr. Club Bul. 8: 48. 1881). Monroe county (Proc. Rochester Acad. 5: 9. 1910), unverified.

2 *Stellaria media* (L.) Vill. Hist. Pl. Dauph. 3: 615 1789

Common chickweed

Alsine media L. Sp. Pl. 272. 1753

In waste places and cultivated soil, meadows and woods. Very common. Naturalized from Europe. Numerous forms of this species are described in European literature, many of which are undoubtedly pure synonyms. Theo. Holm (Ottawa Nat. 15: 37-41. pl. 1, 2, 1901), describes closely related forms found in eastern Canada, viz:

Stellaria neglecta Weihe, in Bluff & Fingerhuth, Comp. Fl. Germ. 1: 560. 1825.

Generally taller than *media*; deep green, lower leaves long petioled, blades very distinctly pointed, inflorescence more lax, flowers on long very slender pedicels which bend downwards after flowering but become erect soon after the seeds are fallen, petals as long as the calyx or longer (while in *media* they are shorter than calyx), stamens 10, seeds larger, the tubercles much more pronounced and often cone-shaped. This is the var. *procera* Klett & Richter in the seventh edition of Gray's Manual.

Stellaria apetala Bernardinus, Pl. ad Linn. opus. Add. in Roerner, Arch. Bot. 1: 68. 1796.

Alsine pallida Dumort. Prod. Fl. Belg. 109. 1827
S. Boracana Jordan, Pug. Pl. Nov. 33. 1852
S. pallida Pire, Bul. Soc. Roy. Bot. Belg. 2: 43. 1863

General aspect of *S. media*, pale green; flowers without petals or these only rudimentary; stamens 2-5 in number; styles diverging horizontally from near the base (while in *media* the styles are erect and only recurved at the apex), seeds pale yellowish brown in color, minutely tubercled like *media*.

S. neglecta has been collected at several localities in eastern Canada and occurs sparingly across northern New York. *S. media* being such a common weed species, it is rarely collected and herbaria contain as a rule but few specimens of this species.

"*S. apetala*," occurs at Green lake east of Jamesville in open woods and doubtless elsewhere.

3 *Stellaria Holostea* L. Sp. Pl. 422. 1753

Great stitchwort or starwort

Alsine Holostea Britton, l.c. 150

In fields and meadows. Adventive from Europe on western Long Island. Not common.

4 *Stellaria longifolia* Muhl.; Willd. Enum. 479. 1809

Long-leaved stitchwort

Spergulastrum gramineum Michx. Fl. Bor. Am. 1: 276. 1803*Micropetalon gramineum* Pers. Syn. 1: 509. 1805*S. graminea* Bigel. Fl. Bost. 110. 1814. Not L.*Stellularia longifolia* Kuntze, Rev., Gen. Pl. 1: 55. 1891*Micropetalon longifolium* Eaton & Wright, Man. 319. 1840*S. tenella* Raf. Am. Mo. Mag. 2: 207. 1818*S. Friesiana* Ser. in DC. Prodr. 1: 400. 1824*Alsine longifolia* Britton, l.c. 150

In low meadows and in marshes and swamps. Common throughout the State, except on Long Island, where it is rare. Rare or absent in the higher Adirondacks.

5 *Stellaria graminea* L. Sp. Pl. 422. 1753

Lesser stitchwort or starwort

S. grandiflora Gilib. Fl. Lituan. 2: 151. 1781*S. graminifolia* Salisb. Prodr. 301. 1796*S. brevifolia* Borkh. in Rhein. Mag. 1: 523. 1793*S. montana* Raf. Am. Mo. Mag. 2: 207. 1818*S. juncea* Fries, Summa Veg. Scand. 37. 1846*Alsine graminea* Britton, l.c. 150

In fields, meadows and along roadsides. Usually regarded as naturalized from Europe, but regarded by Macoun as native in Canada. Common across the State and locally into the Adirondack region. Less common in the western counties of the State, and rare on the south side of Long Island.

6 *Stellaria longipes* Goldie, Edinb. Phil. Jour. 6: 327. 1822

Long-stalked stitchwort

S. crassifolia S. Wats., King Exp. 38. 1875. Not Ehrh.*Stellularia longipes* MacM. Met. Minn. 222. 1893*Alsine longipes* Coville, Contr. U. S. Nat. Herb. 4: 70. 1893

In moist places across the northern part of the State. Not common.

North Elba, Essex county, *Peck*. Big Moose, Herkimer county, *Peck*. Carrollton, Cattaraugus county, *Peck*.

A very glaucous form, approaching var. *laeta* (Richards.) Wats. Syn. Fl. 1: 234. 1897, occurs on ledges at Henderson Harbor, Jefferson county, *House*.

8 *Stellaria borealis* Bigel. Fl. Bost. ed. 2, 182. 1824

Northern stitchwort

S. alpestris, a. Fries, Nov. Fl. Suec. Mont. 1: 10. 1832

S. calycantha Bongard, Veg. Sitch. 127. 1822 — T. & G., Fl. N. Am. 1: 186. 1838

Bigelovia montana Raf. Am. Mo. Mag. 1: 441. 1817. Not *S. montana* Raf. 1818

Alsine borealis Britton, l.c. 149

The typical form of this species has leaves ovate, ovate-lanceolate or elliptic-lanceolate, the primary ones 7-25 mm. long; mature calyx 2-3.5 mm (rarely 4 mm.) long; mature but unopened capsules 3-5 (rarely 5.5) mm. long.

In wet or cool, often shaded situations. Infrequent or rare across the northern part of the State, south to Washington county (*Burnham*).

Var. *isophylla* Fernald, *Rhodora* 14: 150. 1914. Leaves lanceolate to linear-lanceolate, the primary ones 25-55 mm. long, herbaceous throughout, the upper ones but slightly reduced; flowers few, terminal, becoming axillary. In northern New York the most frequent representative of this species, southward to Whitestown, Oneida county, *Paine*; southern Herkimer county; *Haberer*; Dutchess and Sullivan counties, and locally across the State westward in deep cold swamps.

Var. *floribunda* Fernald, l.c. 151

Spergulastrum lanceolatum Michx. Fl. Bor. Am. 1: 275. 1803

Micropetalon lanceolatum Pers. Syn. 1: 509. 1805

Stellaria lanceolata Torr. Fl. 1: 453. 1824

Similar to the preceeding variety, but the upper leaves reduced to short, scarious-margined bracts; flowers numerous in terminal cymes. Rare in the Adirondack region. North Elba, *Peck*. Newcomb, *House*.

CERASTIUM L. Sp. Pl. 437. 1753

1 *Cerastium viscosum* L., l.c.

Mouse-ear chickweed

C. glomeratum Thuill. Fl. Paris, ed. 2, 226. 1824

C. connatum Beck, Bot. 55. 1833

In waste places and in meadows and woodlands. Infrequent or rare. Naturalized from Europe.

2 *Cerastium semidecandrum* L., l.c. 438

Small mouse-ear chickweed

In dry sterile soil. Infrequent in the southern part of the State. Naturalized from Europe.

3 *Cerastium vulgatum* L. Sp. Pl. ed. 2, 627. 1762

Large or common mouse-ear chickweed

In fields, woods, waste places and in cultivated ground. Very common. Naturalized from Europe.

4 **Cerastium longipedunculatum** Muhl. Cat. 46. 1813

Nodding chickweed

C. tenellum Fenzl. Ann. Mus. Wein. 1835

C. nutans Raf. Prec. Decouv. 36. 1814

C. glutinosum Nutt. Gen. 1: 291. 1818

In moist shaded places. Infrequent or rare across the State from Dutchess county westward to Erie county, and southward.

5 **Cerastium arvense** L. Sp. Pl. 438. 1753

Field or meadow chickweed

C. tenuifolium Pursh, Fl. Am. Sept. 321. 1814

C. pennsylvanicum Hornem. in DC. Prodr. 1: 415. 1824

In dry or rocky places. Locally common across the State. Frequent on the hills and mountains of the Hudson valley from Lake George to Putnam and Ulster counties. Less common but widely distributed westward across the State to the Niagara river, but not reported from the Adirondack region or the northern counties.

6 **Cerastium velutinum** Raf. Med. Repos. II. 5: 359. 1808

Barren chickweed

C. villosum Muhl. Cat. 46. 1813

C. arvense Pursh, l.c. Not L.

C. bracteatum Raf. Praec. Decouv. 36. 1817

C. pubescens Goldie, Edinb. Phil. Jour. 4: 328. 1821

C. oblongifolium Torrey, Fl. U. S. 1: 460. 1824

C. pennsylvanicum Hook. Fl. Bor. Am. 1: 104. 1833. Not Hornem

C. arvense villosum Hollick & Britton, Torr. Club Bul. 14: 49. 1887

C. arvense var. *bracteatum* MacM. Met. Minn. 223. 1892

On serpentine and limestone rocks. In New York known only from a few localities on Staten Island.

SAGINA L. Sp. Pl. 128. 1753

Aisinelia Bilb.; Greene, Bot. San Franc. Bay 238. 1894

1 **Sagina procumbens** L., l.c.

Procumbent pearlwort

In moist soil, waste places and streets. Regarded as native along the coastal region, where it is rare or occasional. Reported inland from near Troy, streets of Utica and other localities. Probably in part at least, naturalized from Europe.

- 2 **Sagina decumbens** (Ell.) T. & G. Fl. N. Am. 1: 177. 1838
Decumbent pearlwort

Spergula decumbens Ell. Bot. S. C. & Ga. 1: 523. 1817

Sagina subulata T. & G., l.c. 178. Not Presl. 1826

Sagina apetalata Torr. Fl. N. Y. 1: 94. 1843. Not L.

In dry soil on Staten Island and at Hempstead, Long Island. Infrequent or rare. Probably adventive from the south.

ARENARIA L. Sp. Pl. 423. 1753

- 1 **Arenaria serpyllifolia** L., l.c. Thyme-sandwort

In dry, sandy or rocky places or on ledges. Frequent or common throughout the cultivated areas of the State. Naturalized from Europe.

- 2 **Arenaria leptoclados** Reichenb.; Gussone, Fl. Sic. Syn. 2: 824. 1844
Slender sandwort

In dry soil or rocky places. Infrequent. Adventive from Europe.

MINUARTIA L. Sp. Pl. 89. 1753

Alsine Wahl. Fl. Lapp. 127. 1812. Not L

Alsinopsis Small, Fl. SE. U. S. 419. 1903

Leptophyllum Ehrh. 4: 147. 1789

Sabulina Reichenb. Fl. Germ. Excurs. 785. 1832

- 1 **Minuartia caroliniana** (Walt.) House, Am. Mid. Nat. 7: 132. 1921
Pine-barren chickweed

Arenaria caroliniana Walt. Fl. Car. 141. 1788

A. squarrosa Michx. Fl. Bor. Am. 1: 273. 1803

A. imbricata Raf. Med. Repos. (II) 5: 361. 1808

A. Rafinesquiana Ser. in DC. Prodr. 1: 409. 1824

Alsinopsis caroliniana Small, l.c. 421

In dry sand. Infrequent or rare on the south side of Long Island in Suffolk county, and near Tottenville, Staten Island.

- 2 **Minuartia Michauxii** (Fenzl.) House, Am. Mid. Nat. 7: 132. 1921
Rock sandwort

Arenaria stricta Michx. Fl. Bor. Am. 1: 274. 1803. Not *Minuartia stricta* (Swartz) Hiern. 1899

Alsine Michauxii Fenzl. Verbr. Alsin. table, p. 18. 1833

Arenaria Michauxii Hook. f. Trans. Linn. Soc. 23: 287. 1867

Alsinopsis stricta Small, l.c. 420

In dry rocky places, especially on limestone bluffs and ledges. Frequent across the northern part of the State. Rare southward and westward.

Thousand Islands; along Black river; near Utica (*Paine*, Cat. Pl. Oneida Co. 65. 1865). Irondequoit bay and Penfield, *Holzer*;

Fairport, *A. J. Perkins* (Proc. Rochester Acad. 3: 50. 1896) 5: 9. 1910). Lake Bonaparte, *House*. New Baltimore, Greene county, *Taylor* (Fl. Vic. N. Y. 309. 1915). Verplanck's Point, Westchester county, *F. J. H. Merrill* (Torr. Club Bul. 13: 6. 1886). Glenmont Albany county, *House*. Near Lansingburg, Rensselaer county, *House*.

3 *Minuartia groenlandica* (Retz.) House, Am. Mid. Nat. 7: 132. 1921 Mountain sandwort or starwort

Stellaria groenlandica Retz. Fl. Scand. ed. 2. 107. 1795

Arenaria groenlandica Spreng. Syst. 2: 402. 1825

S. labradorica Schrank, in Denkschr. Bot. Ges. Regensb. 1²: 24. 1818

On dry rocks, mountains summits of northern New York. Rare.

Whiteface mountain, *Emmons* (Torrey, Fl. N. Y. 1: 96. 1843). Summits of Mount McIntyre and Mount Wright, *Peck* (N. Y. State Mus. Bul. 28: 81. 1899). Summit of Mount Marcy, *Peck* (52d Rep't N. Y. State Mus. 662. 1899). Wallface mountain and Indian Pass brook down to 2000 ft. alt., *House*.

4 *Minuartia glabra* (Michx.) House, l.c.

Arenaria glabra Michx. Fl. Bor. Am. 1: 274. 1803

A. groenlandica var. *glabra* Fernald, Rhodora 21: 20. 1919

Alsinoopsis glabra Small, l.c. 420

On dry exposed grassy or rocky ledges and summits. Locally frequent from the Catskill mountains, southward.

North of Mountain House, *Lighthipe* (Torr. Club Bul. 19: 349. 1892). Sam's Point, Ulster county, *Britton* (Torr. Club Bul. 10: 106. 1883). Lake Mohonk, *Peck* (50th Rep't N. Y. State Mus. 120. 1897).

MOEHRINGIA L. Sp. Pl. 359. 1753

Moehringia lateriflora (L.) Fenzl. Verbr. Alsin. tab. p. 18. 1833
Blunt-leaved sandwort

Arenaria lateriflora L. Sp. Pl. 423. 1753

A. buxifolia Poir. Encyc. Meth. 6: 362. 1804

Stellaria biflora Pursh, Fl. Am. Sept. 317. 1814

A. pennsylvanica Muhl. Ind. Fl. Lancaster 169. 1817

In moist places, chiefly in woods, marshes, swamps or moist shores. Frequent or common across the State northward. Less common southward to Long Island and Staten Island, and rare or absent in the pine-barrens.

HONKENYA Ehrh. Beitr. 2: 180. 1788

Ammodenia J. G. Gmel. Fl. Sib. 4: 160. Hyponym. 1769

Halianthus Fries, Fl. Halland 75. 1817

Honkenya peploides (L.) Ehrh., l.c. 181. Sea-beach sandwort

Arenaria peploides L. Sp. Pl. 423. 1753

Adenarium marina S. F. Gray, Nat. Arr. Br. Pl. 2: 545. 1821

Merckia peploides G. Don, Gen. Syst. 1: 441. 1831

Ammodenia peploides Rupr. in Beitr. Pfl. Russ. Reich. 2: 25. 1845

Halianthus peploides Fries, l.c.

On sands of the seashore, along the coast of Long Island and Staten Island. The typical form occurs northward beyond our limits, and the species is represented here by the Var. **robusta** (Fernald) House, N. Y. State Mus. Bul. 243-244: 56. 1923 (*Arenaria peploides* var. *robusta* Fernald, Rhodora 11: 114. 1909) — **Ammodenia maritima** (Raf.) Bickn., Torr. Club Bul. 37: 58 1910).

SPERGULA L. Sp. Pl. 440. 1753

Spergula arvensis L., l.c. Spurry, poverty weed, corn spurry

Adventive from Europe and common as a weed in fields and waste places.

Spergula sativa Boenn, a closely related species has been collected as a waif in New England and in Ontario. *Spergula Morisonii* Bor., reported from near Rochester (Proc. Rochester Acad. 5: 9. 1910), is the same as **Spergula vernalis** Willd., and was doubtless a casual adventive.

ALSINE (Vaill.) L. Sp. Pl. 272. 1753

Tissa and *Buda* Adans. Fam. Pl. 2: 507. 1762

Spergularia Pers. Syn. 1: 504. 1805

1 **Alsine maritima** Pall. Reise Russ. 3: 603. 1776

Salt-marsh sand spurry

Arenaria rubra β, *marina* L. Sp. Pl. 423. 1753

Spergularia salina J. & C. Presl, Fl. Cech. 95, n. 687. 1819

Alsine media Crantz, Instit. 2: 407. 1766, in part; excl. syn. Not L. 1753

Alsinella media Hornem. Nomencl. Fl. Dan. 32. 1827

Buda marina Dumort. Fl. Belg. 110. 1827

Alsine marina Reichenb. Fl. Germ. Excur. 566. 1832. Not Wahl. 1826

Lepigonum salinum G. Don, in Sweet Hort. Brit. Ed. 3, 69. 1839

Tissa marina Britton, Torr. Club Bul. 16: 126. 1889

Spergularia media A. Gray, Man. ed. 5, 95. 1867

Common in the salt marshes along the coast of Long Island and Staten Island, and also inland at Onondaga lake and Warsaw, Wyoming county (*Barter*).

2 **Alsine marginata** (DC.) Reichenb. Fl. Germ. Excur. 566.

1832 Margined sand spurry

Arenaria marina var. β, Sm. Fl. Brit. 2: 480. 1800

Arenaria marginata DC. Fl. Franc. 5: 793. 1805

Lepigonum marinum Wahl. Fl. Gothob. 47. 1820

- Buda media* Dumort. Fl. Belg. 110. 1827
Alsine marina Wahl. Fl. Suec. 281. 1826
Spergularia marginata Kittel, Tauschenb. ed. 2, 1903. 1844
 ? *Spergularia alata* Wiegand, Rhodora 22: 15. 1920

In saline or brackish soil. Rare on western Long Island. Frequent about the old salt vat sites at Onondaga lake, and occasional westward about salt springs in Cayuga and Seneca counties.

3 ***Alsine canadensis*** (Pers.) House, Am. Mid. Nat. 7: 133. 1921
 Northern sand spurry

- Arenaria rubra* β , Michx. Fl. Bor. Am. 1: 274. 1803
Arenaria canadensis Pers. Syn. 1: 504. 1805
Tissa salina Britton, Torr. Club Bul. 16: 127. 1889 (as to descr., and excl. syn.)
Buda borealis S. Wats. in A. Gray, Man. ed. 6, 90. 1890
Spergularia borealis Robinson, in Syn. Fl. 1: 252. 1897

Native of the Atlantic coast, chiefly north of our limits. Collected on Shelter Island, opposite Greenport, *Dr C. H. Peck* (in state herbarium).

4 ***Alsine rubra*** (L.) Crantz, Instit. 2: 407. 1766
 Common or purple sand spurry

- Arenaria rubra* L. Sp. Pl. 423. 1753
A. rubra var. *campestris* L. l.c.
Spergularia rubra J. & C. Presl, Fl. Cech. 93. 1819
Lepigonum rubrum Wahl. Fl. Gothob. 45. 1820
Buda rubra Dumort., l.c.
Spergularia campestris Aschers. Fl. Prov. Brandenb. 94. 1864
Tissa rubra Britton, Torr. Club Bul. 16: 127. 1889

In waste places and along roadsides or sometimes maritime near the salt marshes. Apparently adventive or naturalized from Europe. Common in various localities on Long Island and Staten Island, about New York City and near Albany, Syracuse, Rochester, Buffalo, and doubtless other places.

Family 23 **CARYOPHYLLACEAE** Reichenb. Consp. 206. 1828
 Pink family

AGROSTEMMA L. Sp. Pl. 435. 1753

- Githago* Adans. Fam. Pl. 2: 255. 1763
Lychnis §. *Githago* DC. Prodr. 1: 387. 1824

Agrostemma Githago L., l.c. Corn cockle, corn rose
G. nicaeensis & *G. segetum* Link, Diss. Bot. Suerin, 62. 1795

In grain fields and waste places. Frequent or occasional in most sections of the State, especially in cultivated areas. Adventive or naturalized from Europe.

SILENE L. Sp. Pl. 416. 1753

Section **Behenantha**

Behen Moench, Meth. 709. 1794

Behenantha Schur. in Verh. Naturf. Ver. Bruenn 15²: 130. 1877

- 1 *Silene latifolia* (Mill.) Britten & Rendle, List. Br. Seed Pl. 5. 1907 Bladder campion

Cucubalus Behen L. Sp. Pl. 414 Nat *Silene Behen* L.

C. latifolius Mill. Gard. Dict. ed. 8, No. 2, 1768

Behen vulgaris Moench, l.c.

S. Cucubalus Wibel, Prim. Fl. Werth 241. 1799

S. vulgaris Garcke, Fl. Deutsch. ed. 9, 64. 1869

S. inflata J. E. Smith, Fl. Brit. 2: 292. 1800

S. venosa (Gilib.) Aschers. Fl. Brandenb. 1: 86. 1854

In meadows and waste places, often in woods. Frequent or locally common across the State, especially in the more thickly settled sections. Naturalized from Europe. Reported from Staten Island in 1860, and from Buffalo in 1866 (collected in 1862).

Section **Eusilene** Godr.

- 2 *Silene stellata* (L.) Ait. f. Hort. Kew. ed. 2, 3: 84. 1811
Starry campion

Cucubalus stellatus L., l.c. 414

In woods and on shaded banks. Infrequent or locally common across the State, chiefly south of the Adirondacks. Rare or absent in the pine-barrens of Long Island.

- 3 *Silene nutans* L., l.c. 417. Nodding catchfly

At Arrocher, Staten Island, *Kerr* (Torr. Club Bul. 22: 460. 1895). Adventive from Europe.

- 4 *Silene virginica* L., l.c. 419 Fire pink, indian pink

S. Catesbaei Walt. Fl. Car. 142. 1788

S. coccinea Moench, Meth. Suppl. 306. 1794

Melandryum virginicum A. Br. in Flora 26: 372. 1843

In dry woods. Rare in this State, but common south of our borders.

Denmark, Lewis county, *Hough* (Cat. Pl. Lewis Co. 1846, doubtful and unverified). Yates county, *Sartwell* (Torrey, Fl. N. Y. 1: 102. 1843). Monroe county, *Holzer*, *Lennon* (Proc. Rochester Acad. 3: 50. 1896). Not collected within recent years and doubtfully native.

- 5 *Silene caroliniana* Walt. Fl. Car. 142. 1788 Wild pink

S. pennsylvanica Michx. Fl. Bor. Am. 1: 272. 1803

S. cheiranthoides Poir. Dict. 7: 176. 1806

S. incarnata Lodd. Bot. Cab. t. 41

S. platyptala Otth. in DC. Prodr. 1: 383. 1824

Melandrium pennsylvanicum Rohrb. Monogr. 232. 1868

In dry, sandy or rocky woods. Frequent on Long Island and Staten Island, and in the Bronx and Westchester counties. Rare northward and not reported from the Catskills.

Amenia, Dutchess county, *Dow*; Schenectady, *Pearson* (Paine, Cat. Pl. Oneida Co. 65. 1865). Pine Plains, Dutchess county, *Hoysradt*. Reported from Lewis county by *Hough* in 1846, and from Aurora, Cayuga county by *Dr. Alex. Thompson* in 1841.

- 6 *Silene antirrhina* L. Sp. Pl. 419. 1753 Sleepy catchfly
Saponaria dioica Cham. & Schlecht. Linnaea 1: 38. 1826
Ebraxis virgata Raf. Aut. Bot. 291. 1840

In dry or sandy soil, waste places, open woods or recently cleared or cultivated soil. Frequent or common in most sections of the State. Doubtless largely adventive or naturalized from the south. The var. *divaricata* Robinson, near Lansingburg, Peck.

- 7 *Silene Armeria* L. Sp. Pl. ed. 2, 601. 1762
 Sweet William, Lobel's catchfly

In waste places and spontaneous in gardens and recently cultivated soil. Not common. Native of Europe.

- 8 *Silene noctiflora* L. Sp. Pl. 419. 1753 Night-flowering catchfly
Melandrium noctiflorum Fries, Bot. Notiser 143. 1843

In waste places. Occasional as a weed or sometimes common in neglected yards and gardens or along roadsides. Naturalized or adventive from Europe.

- 9 *Silene anglica* L., l.c. 416 English or small-flowered catchfly
S. gallica L., l.c. 417
Corone gallica Fourr. Ann. Soc. Linn. Lyon, N. S. 16: 344. 1868

In waste places or in recently cultivated soil. Not common. Adventive from Europe.

Var. *quinquevulnera* (L.) House, N. Y. State Mus. Bul. 243-244: 70. 1923 (*S. quinquevulnera* (L.) l.c. *S. gallica* var. *quinquevulnera* Koch), with petals more showy, subentire, deep crimson with a white or pink border, is rare.

- 10 *Silene dichotoma* Ehrh. Beitr. 7: 143. 1792 Forked catchfly
S. racemosa Otth. in DC. Prodr. 1: 384. 1824

In fields and waste places. Frequent in most of the cultivated areas of the State. Naturalized from Europe.

LYCHNIS (Tourn.) L. Sp. Pl. 436. 1753

Melandrium Roehl. Deutsch. Fl. ed. 2, 2: 37, 274. 1812

Section **Eulychnis** Fenzl.

1 **Lychnis alba** Mill. Gard. Dict. ed. 8, No. 4. 1768

White champion

L. vespertina Sibth. Fl. Oxon. 146. 1794

M. album Garcke, Fl. Deutschl. ed. 4, 55. 1858

In waste places and on ballast. Infrequent or local. Adventive or naturalized from Europe. First reported from Elmira, Gray, 1863 (Add. Bot. No. U. S. p. xc.)

2 **Lychnis dioica** L., l.c. 437

Red campion

L. diurna Sibth., l.c. 145

L. sylvestris Schk. Handb. 1: 403. pl. 124. 1808

M. dioicum Coss. & Germ. Fl. Par. ed. 1, 28. 1845

In waste places and on ballast. Infrequent or rare. Adventive from Europe. First New York collection by Peck in 1883 at Petersburg, Rensselaer county.

3 **Lychnis Chalcedonica** L., l.c. 436

Scarlet lychnis

A rare escape from gardens to fields and roadsides. Native of eastern Europe and western Asia.

Rare on Long Island, Staten Island and the lower Hudson valley, Taylor (Fl. Vic. N. Y. 313. 1915). Monroe county (Proc. Rochester Acad. 3: 50. 1896). White Lake, Oneida county, Haberer, (N. Y. State Mus. Bul. 105: 33. 1906). Claryville and North Elba, Peck (54th Rep't N. Y. State Mus. 143. 1901).

4 **Lychnis Flos-cuculi** L. l.c. 436

Ragged robin

M. Flos-cuculi Roehl., l.c. 274

Coronaria Flos-cuculi A. Br. Flora 26: 368. 1843

In moist soil, chiefly in meadows, old fields and along roadsides. Locally common across the State. Naturalized from Europe or an escape from gardens.

Section **Agrostemma** Fenzl.

Coronaria, Sect. *Pseudagrostemma* A. Br., l.c. 368

5 **Lychnis Coronaria** (L.) Desr. in Lam. Encycl. 3: 643. 1789

Mullein pink

Agrostemma Coronaria L., l.c. 436

Coronaria tomentosa A. Br., l.c.

Frequent in cultivation and occasionally escaped to roadsides and waste places, or spontaneous in old gardens and yards. Native of Europe.

GYP SOPHILA L. Sp. Pl. 406. 1753

Gypsophila muralis L., l.c. 408 Low gypsophila

In waste places. Rare as a weed in southern New York. Adventive from Europe.

PETRORHAGIA (Ser.) Link, Handb. 2: 235. 1831

Imperatia Moench, Meth. 60. 1794. Not *Imperata* Cyrilli, 1792

Petrorhagia Saxifraga (L.) Ser., l.c. Tunica, Saxifrage pink

Dianthus Saxifragus L. Sp. Pl. 413. 1753

Tunica Saxifraga Scop. Fl. Carn. ed. 2, 1: 300. 1772

I. filiformis Moench, l.c.

Roadsides near Flushing, Long Island. Not recently collected and probably not established in our flora. Native of Europe.

SAPONARIA L. Sp. Pl. 408. 1753

Boottia Neck. Delic. Gallo-Belg. 1: 193. 1768

Saponaria officinalis L., l.c. Bouncing Bet, soapwort

B. vulgaris Neck., l.c. 193

B. Saponaria Neck. Act. Acad. Theod. Pal. 2: 484. 1770

Roadsides and waste places. Common. Naturalized from Europe.

VACCARIA Medic. Phil. Bot. 1: 96. 1789

Saponaria, Sect. *Vaccaria* Robinson, Syn. Fl. 1^a: 213. 1897

Vaccaria Vaccaria (L.) Britton, in Britton & Brown, Illus. Fl. ed. 1, 2: 18. 1897 Cowherb, cockle

Saponaria Vaccaria L., l.c. 409

V. vulgaris Host. Fl. Aust. 1: 518. 1827

V. segetalis Garcke, in Aschers. Fl. Brand. 1: 84. 1854

In waste places and on ballast. Infrequent or locally abundant, especially about cities and towns. Naturalized or adventive from Europe.

DIANTHUS L. Sp. Pl. 409. 1753

Tunica Boehm. in Ludw. Def. Gen. 298. 1760

1 **Dianthus prolifera** L., l.c. 410

Proliferous or childing pink

Tunica prolifera Scop. Fl. Carn. ed. 2, 1: 299. 1772

In waste places and on ballast. Rare or local, chiefly on Staten Island and about New York City. Elsewhere rare. Adventive from Europe.

- 2 **Dianthus Armeria** L. Sp. Pl. 410. 1753 Deptford pink
D. armeroides Raf. in Desv. Jour. Bot. 3: 269. 1814
Atocion armeroides Raf. Autikon Bot. 29

In fields, along roadsides and in waste places. Frequent in most sections of the State. Naturalized from Europe.

- 3 **Dianthus deltoides** L. Sp. Pl. 411. 1753 Maiden or meadow pink

In waste places, along roadsides, in old gardens, etc. Infrequent, and not reported from the extreme southern part of the State. Adventive or naturalized from Europe.

- 4 **Dianthus barbatus** L. Sp. Pl. 409. 1753 Sweet William

In waste places, usually as an escape from gardens. Occasional or locally common. Native of Europe.

- Family 24 **CERATOPHYLLACEAE** A. Gray, Ann. Lyc. N. Y. 4: 41. 1837

Hornwort family

CERATOPHYLLUM L. Sp. Pl. 992. 1753

- Ceratophyllum demersum** L., l.c. Hornwort, hornweed

In slow streams and ponds. Infrequent or locally abundant across the State. Not reported from North Elba by Peck, and apparently absent from most of the northern Adirondack region. Common in many of the lakes and slow streams of the central and western parts of the State, the St Lawrence region and along the south shore of Lake Ontario. The var. **echinatum** Gray, with about the same range is perhaps not a constant or well-marked variety.

- Family 25 **CABOMBACEAE** A. Gray, Ann. Lyc. N. Y. 4: 46. 1837

Water shield family

BRASENIA Schreber, Gen. Pl. 372. 1789

- Brasenia Schreberi** Gmel. Syst. Veg. 1: 853. 1796

Water shield

Menyanthes nymphacoides Thunb. Fl. Jap. 82. 1784. Not L. 1753

Hydropeltis purpurea Michx. Fl. Bor. Am. 1: 324. 1803

Brasenia peltata Pursh, Fl. Am. Sept. 389. 1814

B. purpurea Casp. in Engl. & Prantl., Nat. Pfl. Fam. 3²: 6. 1890

In ponds, lakes and slow streams. Common across the northern part of the State. Less frequent in the eastern, and southern sections of the State, and in the ponds and bays along Lake Ontario. (See Joseph Schrenk, on the histology of the vegetative organs of this plant (Torr. Club Bul. 15: 29-47. 1888).

Family 26 **NELUMBONACEAE** Lindl. Nat. Syst. ed. 2, 13. 1836
Sacred bean family

NELUMBO (Tourn.) Adams. Fam. Pl. 2: 76. 1763

Nelumbo lutea (Willd.) Pers. Syn. 1: 92. 1805
American nelumbo or lotus

Nelumbium luteum Willd. Sp. Pl. 2: 1259. 1799
Cyamus luteus Nutt. Gen. 2: 25. 1818

The only known locality for this plant in New York State is Sodus Bay, Wayne county.

(Sartwell; Torr & Gray, Fl. N. Am. 1: 56. 1838; Torrey, Fl. N. Y. 1: 38. 1843 Paine, Cat. Pl. Oneida Co. 58, 183. 1865; N. Y. State Mus. Bul. 197: 60. fig. 4. 1918).

Family 27 **NYMPHAEACEAE** DC. Propr. Med. ed. 2, 119. 1816
Water lily family

NYMPHAEA L. Sp. Pl. 510. 1753

Nymphozanthus L. C. Rich. Anal du Fruit 63, 103. 1808*
Nuphar Sm. in Sibth. & Sm. Fl. Graec. Prodr. 1: 361. 1808 (1809)

1 **Nymphaea microphylla** Pers. Syn. 2: 63. 1807
Small yellow pond lily

N. lutea var. *Kalmiana* Michx. Fl. Bor. Am. 1: 311. 1803
Nuphar Kalmianum R. Br. in Ait. f. Hort. Kew. ed. 2, 3: 295. 1811
Nuphar microphyllum Fernald, Rhodora 19: 111. 1917
Nymphaea Kalmiana Sims, Bot. Mag. pl. 1243. 1809
Nymphozanthes microphyllus Fernald, Rhodora 21: 186. 1919

In ponds and slow streams. Infrequent but widely distributed across the State northward. Less frequent westward and southward and absent from the southern part of Long Island.

2 **Nymphaea rubrodisca** (Morong) Greene, Torr. Club Bul. 15: 84. 1888
Peck's yellow pond lily

* Fernald (Rhodora 21: 183-188. 1919) takes up the name *Nymphozanthus* for this genus, because *Nymphaea*, as amended by Linnaeus in 1764, applies to the white water lily group. See also Conrad (Rhodora 18: 161-164. 1916).

Nuphar advena var. *hybrida* Peck, 34th Rep't N. Y. State Mus. 53. 1881

Nuphar advena var. (?) *minor* Morong, Bot. Gaz. 11: 167. 1886

Nuphar rubrodiscum Morong, l.c.

Nymphaea Fletcheri Lawson, Proc. & Trans. Royal Soc. Canada, Sect. IV. 6: 119. 1888

Nymphaea hybrida Peck, N. Y. State Mus. Bul. 28: 75. 1899

Commonly regarded as a hybrid between *N. microphylla* and *N. advena* var. *variegata* in the north. Generally distributed throughout the lakes, ponds and slow streams of the northern and central sections of the State, and less common or rare westward and southward, nearly always associated with the two species of which it is supposed to be a hybrid.

3 *Nymphaea advena* Solander in Ait. Hort. Kew. 2: 226. 1789

Spatterdock, large yellow pond lily, cow lily

Nuphar advena R. Br., in Ait. f. Hort. Kew. ed. 2, 3: 295. 1811

Nuphar americana Provancher, Fl. Cand. 1: 28. 1862

Rare in the eastern, central and western sections of the State. More common southward, especially on Long Island. The typical southern form is quite distinct from the form of the northern lakes and ponds, but intermediate forms or gradations are too frequent to permit of definite specific separation, and the northern form is best treated as:

Var. *variegata* (Engelm.) Fernald, Rhodora 10: 49. 1908

Northern yellow pond lily

Nuphar variegatum Engelm.; Clinton, ex E. Durand in 19th Rep't Regents, 73. 1866

Nuphar advena var. *variegata* Engelm. in Gray's Man. ed. 5, 57. 1867

Nymphaea variegata G. S. Miller, Proc. Biol. Soc. Washington 15: 13. 1902

Nymphaea americana Miller & Standley, Contr. U. S. Nat. Herb. 16: 78. 1912

Nymphozanthus variegatus Fernald, Rhodora 21: 187. 1919

This in its typical form always possesses floating leaves, and is the prevailing form throughout all of eastern, central and northern New York. In western New York, especially along Lake Ontario and Lake Erie, and in the southern tier of counties, along the Hudson river and other rivers flowing south, the typical form of *N. advena*, with leaves more or less erect and at least partially out of the water, or at least not entirely floating, is frequent or common, but even in these sections typical var. *variegata* is not entirely absent and intermediate forms are common. There is a strong suspicion that the higher temperatures of the waters of the more southern streams and ponds is responsible for the differences in habit between the northern and southern forms of this species, since neither size of flowers nor the number of rays of the peltate stigma have proven to be constantly different in the two forms.

CASTALIA Salisb. in König & Sims, Ann. Bot. 2: 71. 1805

Nymphaea L. Gen. Pl. Ed. 6, 264. 1764. Not L., 1753

Leuconymphaea (Ludw. 1737) Kuntze, Rev. Gen. Pl. 11. 1891

- 1 **Castalia odorata** (Dryand.) Woodville & Wood, in Rees' Cyclop.
6: No. 1. 1806 Sweet-scented white water lily

Nymphaea odorata Dryand. in Ait. Hort. Kew. 2: 227. 1789

Castalia pudica Salisb., l.c. 72

L. odorata MacM., Met. Minn. 228. 1892

In ponds, lakes and quite or slow-flowing streams. Frequent or common throughout most sections of the State, or locally absent from sections where such waters do not occur.

Starved or depauperate forms constitute the so-called var. **minor**, and it is usually these small forms which often possess pink or rosy colored flowers, known as forma **rosea** (Pursh) Britton (Cat. Pl. N. J. 44. 1889).

- 2 **Castalia tuberosa** (Paine) Greene, Torr. Club Bul. 15: 84. 1888
Large or tuberous white water lily

Nymphaea tuberosa Paine, Cat. Pl. Oneida Co. 132 (184). 1865

Leuconymphaea tuberosa Kuntze, l.c.

Frequent or common in bays, lakes and ponds, rarely in slow streams, from Lake Champlain westward, outside of the Adirondacks, to Lake Ontario and Lake Erie, and southward to Delaware county.

Family 28 **MAGNOLIACEAE** J. St. Hil. Expos. Fam. 2: 74.
1805

Magnolia family

MAGNOLIA L. Sp. Pl. 535. 1753

- 1 **Magnolia virginiana** L., l.c. Sweet bay, laurel magnolia

M. virginiana var. *glauca* L., l.c.

M. glauca L. Sp. Pl. ed. 2, 755. 1763

M. fragrans Salisb. Prodr. 379. 1796

In swamps and swampy woods, south of the moraine on Long Island and occasionally on Staten Island.

- 2 **Magnolia acuminata** L. Sp. Pl. ed. 2, 756. 1763
Cucumber tree, mountain magnolia

M. virginiana var. *acuminata* L. Sp. Pl. 536. 1753

Tulipastrum americanum Spach, Hist. Veg. 7: 483. 1839

T. acuminatum Small, Fl. SE. U. S. 451. 1903

In rich woods. Central and western parts of the State. Infrequent, but increasing in abundance southward.

The eastern limit of the range of this beautiful tree is apparently Broome, Cortland and Onondaga counties, thence westward to Lake Erie and southward. It is doubtful if the range of this reaches the shores of Lake Ontario unless perhaps in Niagara county.

LIRIODENDRON L. Sp. Pl. 535. 1753

Liriodendron Tulipifera L., l.c. Tulip tree, tulip poplar

Tulipifera liriodendron Mill. Gard. Dict. ed. 8. 1768

Liriodendron procerum Salisb. Prodr. 379. 1796

In rich woods, especially lowland woods in the extreme north of its range, across the State south of the Adirondacks. Rare or absent from the more elevated portions of the Catskill region and from the higher or upland woods of the elevated region extending from Albany county westward to southern Onondaga county. Occasional in the Mohawk valley and adjacent woods, and common in the lowlands about Oneida lake and westward. Southward in the State of more uniform and general distribution.

Family 29 **ANONACEAE** DC. Syst. 1: 463. 1818

Custard apple family

ASIMINA Adams. Fam. Pl. 2: 365. 1763

Asimina triloba (L.) Dunal. Mon. Anon. 83. 1817

North American papaw

Annona triloba L. Sp. Pl. 537. 1753

Orchidocarpum arietinum Michx. Fl. Bor. Am. 1: 329. 1803

Porcelia triloba Pers. Syn. 2: 95. 1807

Uvaria triloba Torr. & Gray, Fl. N. Am. 1: 45. 1838

Along streams and in low ground, Monroe county westward and southward. Rare or infrequent but increasing toward the southwest. Reported by Pursh (Journal for July 30, 1807) from opposite Three Rivers Point, Oswego county.

In this State usually a very small tree, but specimens measuring up to six inches in diameter have been found in Niagara county, and 4 or 5 inches in diameter near Brockport in Monroe county.

Family 30 **RANUNCULACEAE** Gerard, Fl. Galloprov. 1761;

Juss. Gen. 231. 1789

Crowfoot family

HYDRASTIS Ellis; L. Syst. ed. 10, 1088. 1759

Warnera Mill. Gard. Dict. ed. 8. 1768

Hydrastis canadensis L., l.c. Golden seal, orange root

Warnera canadensis Mill., l.c.

W. diphylla and *tinctoria* Raf. Med. Fl. 1: 253. 1825

In rich moist woods, Madison and Tompkins counties westward and southward. Infrequent or rare. Reported eastward to Connecticut, not definitely known in New York east of Madison county.

CALTHA (Rupp.) L. Sp. Pl. 558. 1753

Clatha palustris L., l.c. Marsh marigold, cowslips

In swamps, marshes and wet meadows. Frequent or common throughout the State. Rare or absent in the pine-barrens of Long Island.

There are numerous synonyms for this species in European literature. The American plant was described by Rafinesque (Med. Repos. II. 5: 361. 1808), as *C. parnassifolia*, and Dr E. L. Greene (Ottawa Nat. 23: 112. 1909), regards our plant as distinct from the European one under this name.

Var. *flabellifolia* (Pursh) T. & G. Fl. N. Am. 1: 27. 1838. (*C. flabellifolia* Pursh, Fl. Am. Sept. 390. 1814), in cold mountain springs of Delaware county.

Var. *radicans* (Forst.) Hartm., an arctic and boreal variety, has been reported by Rydberg from Woodlawn, New York City and West Hampton, Long Island. (*C. radicans* T. F. Forst, Trans. Linn. Soc. 8: 324. t. 17. 1807).

The so-called variety *integerrima* (Pursh, l.c.) T. & G., l.c. is probably not a well marked form. Rafinesque's name for the American plant is also taken up by Torrey & Gray as a variety.

TROLLIUS L. Sp. Pl. 556. 1753

Trollius laxus Salisb. Trans. Linn. Soc. 8: 303. 1803

American globe flower

T. americanus Muhl. Trans. Am. Phil. Soc. 3: 172, name only. 1793

Gaissenia verna Raf. Med. Repos. (II) 5: 351. 1808

In deep swamps and marshy borders of woods. Rare from Westchester and Rockland counties to Otsego and Herkimer counties and westward across the State. Formerly in Bronx and Queens counties, *Taylor* (Fl. Vic. N. Y. 319. 1915).

HELLEBORUS (Tourn.) L. Sp. Pl. 557. 1753

Helleborus viridis L., l.c. 558

Green hellebore

In waste places. Native of Europe.

Locally adventive near Jamaica and in woods near Flushing, Long Island (Torrey, Fl. N. Y. 1: 19. 1853), and Salamanca, Cattaraugus county, Day (Pl. Buffalo 14. 1883). Occasional in cultivation but not recently collected or reported as an adventive in this State.

COPTIS Salisb. Trans. Linn. Soc. 8: 305. 1803

Chrysa Raf.; Desv. Jour. Bot. 2: 170. 1809

Coptis trifolia (L.) Salisb., l.c. Gold thread

Helleborus trifolius L. Sp. Pl. ed. 2, 784. 1762

Chrysa borealis Raf. Desv. Jour. Bot. 2: 170. 1809

Isopyrum trifolium Britton, Torr. Club Bul. 18: 265. 1891

In damp mossy woods and swamps. Common or frequent across the State northward, in central New York and westward to Lake Erie. Less common or local southward to the lower Hudson valley, and in most of the southern counties bordering on Pennsylvania. Recorded from Staten Island but not from Long Island.

XANTHORRHIZA L'Her. Stirp. Nov. 79. 1784

Xanthorrhiza apiifolia L'Her., l.c. Shrub yellow root

X. simplicissima Marsh. Arb. Am. 168. 1785

In woods and along banks of streams in Cattaraugua and Chautauqua counties. Less common eastward to Steuben county and northward into Erie county.

In Torrey's Flora of New York, Gray's Manual, and in Paine's Catalogue of the Plants of Oneida County, this is reported from a deep ravine near Sherburne, Chenango county, 11 miles south of Hamilton (*J. S. Douglass*), and as having been transplanted to a ravine on College Hill (Clinton, Oneida county) by Professor Orrin Root.

ACTAEA L. Sp. Pl. 504. 1753

1 *Actaea rubra* (Ait.) Willd. Enum. 561. 1809

Red baneberry, black cohosh

A. spicata var. *rubra* Ait. Hort. Kew. 2: 221. 1789

In woods and thickets. Common throughout most of the State, but less frequent southward and rare on Long Island.

Forma *neglecta* (Gillman) Robinson, Rhodora 10: 66. 1908

A. neglecta Gillman; Lloyd's Drugs & Med. 235. 1884-5

A. eburnea Rydb., Mem. N. Y. Bot. Garden 1: 153. 1900

An intermediate form with white berries on long slender green pedicels. Reported from Essex, Herkimer, Monroe, Ontario and Albany counties.

2 *Actaea alba* (L.) Mill. Gard. Dict. ed. 8, No. 2, 1768

White baneberry

A. spicata var. *alba* L. Sp. Pl. 504. 1753*A. pachypoda* Ell. Bot. S. C. & Ga. 2: 15. 1817

In rich woods, flowering a week or two weeks later than *A. rubra*, when the two species grow together. Common across the State, especially southward. Rare northward and absent from the higher Adirondack region.

Forma *rubrocarpa*, Killip, N. Y. State Mus. Bul. 243-244: 40 1923, with red berries on thickened pedicels, which are usually reddish at maturity, as in typical *A. alba*, reported from Cattaraugus county by *Kneiskern* (Torrey, Fl. N. Y. 1: 22. 1843), and recently collected at Pittsford, Monroe county by *E. P. Killip*.

CIMICIFUGA L. Syst. ed. 12, 659. 1767

Macrotrys Raf. Med. Repos. (II) 5: 352. 1808

Thalictrodes Amm.; Kuntze, Rev. Gen. Pl. 4. 18911 *Cimicifuga racemosa* (L.) Nutt. Gen. 2: 15. 1818.

Black snakeroot, black cohosh

Actaea racemosa L. Sp. Pl. 504. 1753*M. actaeoides* Raf., l.c.; in Desv. Jour. Bot. 2: 170. 1809*M. racemosa* Sweet, Hort. Brit. 9. 1827*C. serpentaria* Pursh, Fl. Am. Sept. 372. 1814*Thalictrodes racemosum* Kuntze, l.c.

In woods and thickets. Rare in the Mohawk valley, the upper Hudson valley and central New York. More common from Onondaga county westward and southward, and in southeastern New York and in the southern counties bordering on Pennsylvania.

The report by Peck (N. Y. State Mus. Bul. 28: 74. 1899) of this species at North Elba, Essex county, is apparently a mistake. The plant in the state herbarium under that name from North Elba, is immature and only in bud, and is quite certainly a species of *Actaea*. Near Troy (*Gordinier & Howe*) seems to be the northern range of this species in eastern New York.

Var. *dissecta* A. Gray, occurs from Connecticut to Delaware, but has not been definitely reported from this State.

2 *Cimicifuga americana* Michx. Fl. Bor. Am. 1: 316. 1803

American bugbane

Thalictrodes americanum Kuntze, l.c.*Acetaea americana* Prantl, Bot. Jahrb. 9: 246. 1888

An Appalachian species reported northward to "central New York," in Britton & Brown's Illustrated Flora, ed. 2 (1913), and "Watkins, N. Y." (according to *Britton*), in Gray's Manual, ed. 7 (1908).

AQUILEGIA (Tourn.) L. Sp. Pl. 533. 1753

1 **Aquilegia canadensis** L., l.c.

Wild columbine, rock bells, honeysuckle

A. variegata Moench, Meth. 311. 1794

A. elegans Salisb. Prodr. Stirp. 374. 1796

A. coccinea Small, Bul. N. Y. Bot. Garden 1: 280. 1899

In rocky or sometimes sandy woods. Common throughout the State.

Forma **flaviflora** (Tenney) Britton, with yellow flowers, is very rare. Forma **albiflora** House, N. Y. State Mus. Bul. 243-244: 48. 1923, with white flowers, collected near Syracuse by Mrs L. L. H. Goodrich (state herbarium).

2 **Aquilegia vulgaris** L., l.c.

European columbine

Formerly very common as a cultivated ornamental plant and still frequent in cultivation. Locally common in many sections of the State as an escape in woods and fields, and persistent about old grounds. Numerous varieties are described, and the purplish and pink flowered forms, and rarely the white flowered form, are found naturalized.

DELPHINIUM L. Sp. Pl. 530. 1753

Delphinium Ajacis L., l.c. 531

Rocket larkspur

D. Consolida Torrey, Fl. N. Y. 1: 20. 1843. Not L.

Rarely persistent in old yards and on waste ground, chiefly as a garden escape. Frequent in cultivation. Native of Europe.

D. Consolida L. has more than once been reported from New York, but no specimens have been seen. All specimens in the state herbarium, so labelled, are *D. Ajacis*.

ACONITUM (Tourn.) L. Sp. Pl. 532. 1753

Aconitum noveboracense A. Gray; Coville, Torr. Club Bul. 13: 190. 1886

New York monkshood

A. uncinatum Torr. Fl. N. Y. 1: 21. 1843. Not L.

In moist or wet woods in Chenango, Ulster and Orange counties. Rare.

Chenango county, *LeConte* (Torrey, Cat. Pl. N. Y. & Fl. N. Y. Paine, Cat. Pl. Oneida Co. 56. 1865). Greene, Chenango county, *A. Willard* (Robinson in A. Gray, Syn. Fl. 1: 52. 1895). Oxford, *Coville* (l.c.). Upper waters of Beaver Kill, Ulster county, *Rev.*

A. P. Van Gieson (27th Rep't N. Y. State Mus. 89. 1887, as *A. napellus*). Between West Shokan and Bullrun, *Peck* (53d Rep't N. Y. State Mus. 849. 1900).

ANEMONE L. Sp. Pl. 538. 1753

- 1 *Anemone hudsoniana* Richards. in Frankl. Jour. App. 741. 1823
Cut-leaved anemone, red wind flower

A. multifida var. *hudsoniana* DC. Prodr. 1: 21. 1824

A. sanguinea Pursh; T. & G. Fl. N. Am. 1: 13. 1838, as syn. Pritz, in Linnaea 15: 672. 1841

A. multifida Robinson & Fernald, in Gray's Man. ed. 7, 401. 1908. Not Poir.

On limestone rocks and ledges along the Black river near Watertown, *Cræve* (Gray, in Ann. Lyc. N. Y. 3: 222. 1835), and along the river cliffs between Brownville and Dexter, *Fascy* (Paine, Cat. Pl. Oneida Co. 1865).

- 2 *Anemone cylindrica* A. Gray, Ann. Lyc. N. Y. 3: 221. 1836
Long-fruited anemone

In open sandy places or on rocky ledges. Infrequent or locally abundant across the State northward, outside of the higher Adirondacks, southward to Westchester and Delaware counties and westward to Lake Erie.

- 3 *Anemone virginiana* L. Sp. Pl. 540. 1753

Tall anemone, thimble-weed

In woods, thickets and meadows. Common in most sections of the State

The typical form of this species has the sepals leathery and greenish, very pubescent on the back, narrowly oblong, acuminate, .7-1.3 cm long; head of fruit 1-1.5 cm thick.

Forma *rubrasepala* House, N. Y. State Mus. Bul. 243-244: 26. 1923. The thick leathery sepals strongly tinged with red above, silky white outside. Cairo, Greene county, *Slater* (state herbarium).

Var. *alba* Wood, Classbook, 203. 1861

A. cylindrica var. *alba* Oakes, in Hovey's Mag. Hort. 7: 182. 1842

A. riparia Fernald, Rhodora 1: 51. 1899; 19: 139. 1917

A rather anomalous variety or condition in which the leaf-segments are sometimes more cuneate at the base; anthers shorter; fruiting heads only 7-11 mm thick; styles subulate and more ascending; sepals petaloid, white, at least the inner ones oblong to oval, rounded at the tip, 1.3-2 cm long, 0.8-1.5 cm broad.

Fernald (*Rhodora* 19: 139-140. 1917), in attempting to point out its distinguishing characteristics, adds to the difficulty by describing a form with thick leathery sepals (*A. riparia* f. *inconspicua*), like those of *virginiana*. For *A. virginiana*, he describes a form (*A. virginiana* f. *leucosepala*) with, petaloid, sepals like those of *A. riparia*. This reduces the differentiating characters to a matter of leaf-segments, the form of which is not, as he admits, constant in the 2 so-called species; length of anthers, thickness of fruiting heads and character of styles, characters sufficiently good if they were constant, which is not the case.

4 **Anemone canadensis** L. Syst. ed. 12, 3: App. 231. 1768
Canada or round-leaved anemone

A. pennsylvanica L. Mant. 2: 247. 1771
A. aconitifolia Michx. Fl. Bor. Am. 1: 320. 1803
A. dichotoma var. *canadensis* MacM. Met. Minn. 237. 1892

In low grounds and along river banks. Frequent or common across the State outside of the higher Adirondacks. Less frequent southward to Westchester and Bronx counties and not found on Long Island or Staten Island. Not reported from the Chemung valley by Clute, and apparently rare or local in most of the southern tier of counties bordering on Pennsylvania.

5 **Anemone quinquefolia** L. Sp. Pl. 541. 1753
Wind flower, wood anemone

A. pedata Raf. Med. Repos. (II) 5: 361. 1808
A. nemorosa β, *quinquefolia* T. & G. Fl. N. Am. 1: 12. 1838

In low woods, most often in light or sandy soil, sometimes in rocky woodlands. Common across the State southward. Rather local northward to the eastern foothills of the Adirondacks, along Lake Champlain and in Clinton county, and west of the mountains northward to St Lawrence county.

HEPATICA (Rupp.) Mill. Gard. Dict. Abr. ed. 4. 1754

1 **Hepatica americana** (DC.) Ker. in Edward's Bot. Reg. 5: t. 387.
1819 Round-leaved hepatica or liverleaf

H. triloba var. *obtusa* Pursh, Fl. Am. Sept. 391. 1814
H. triloba var. *americana* DC. Syst. 1: 216. 1817
H. triloba & *H. Hepatica* of American reportes, not *Anemone Hepatica* L., or *H. triloba* Chaix.

In woods. Frequent or common across the State outside of the higher Adirondacks, chiefly at low elevations and outside of distinctly limestone formations.

Fernald (*Rhodora* 19: 46. 1917) takes the blue-flowered form as typical and describes forma **candida**, with white flowers; and forma **rhodantha**, with pink or rosy flowers.

2 **Hepatica acutiloba** DC. Prodr. 1: 22. 1824

Sharp-lobed hepatica or liverleaf

H. triloba var. *acuta* Pursh, l.c.

H. acuta Britton, Ann. N. Y. Acad. Sci. 6: 234. 1891

In woods. Common or frequent in most sections of the State north of the coastal plain, and particularly abundant in calcareous sections.

Among the color forms may be detected those with white flowers, blue flowers, pink or rosy flowers and forms with the blue or rosy sepals margined with white.

SYNDESMON Hoffmg. Flora 15: Intell. Bl. 4, 34. 1832

Anemonella Spach, Hist. Veg. 7: 239. 1839

Syndesmon thalictroides (L.) Hoffmg., l.c.

Rue anemone

Anemone thalictroides L. Sp. Pl. 542. 1753

Thalictrum anemonoides Michx. Fl. Bor. Am. 1: 322. 1803

Anemonella thalictroides Spach, l.c.

In woods, thickets and on banks, usually in sandy or alluvial soil, sometimes in rocky woods. Frequent or common across the State south of the Adirondack region from Washington and Saratoga counties to Oneida, Lewis and Jefferson counties, westward and southward. Rather local in the northern part of its range, becoming common southward.

RANUNCULUS (Tourn.) L. Sp. Pl. 548. 1753

Subgenus *Batrachium*

Batrachium S. F. Gray, Nat. Arr. Br. Pl. 2: 720. 1821

1 **Ranunculus trichophyllus** Chaix. in Vill. Hist. Pl. Dauph. 1: 335. 1786

White Water Crowfoot

R. pantothrux DC. Syst. 1: 235. 1818

R. divaricatus Schrank, Baier. Fl. 2: 104. 1780

R. aquatilis var. *capillaceus* DC. Prodr. 1: 26. 1824

R. aquatilis var. *trichophyllus* A. Gray, Man. ed. 5, 40. 1867

R. aquatilis var. *submersus* Godron, in Gren. & Godr. Fl. Fr. 1: 23. 1848

Batrachium trichophyllum F. Schultz, Arch. Fl. Fr. & Allem. 1: 70. 1844

5 *Ranunculus flabellaris* Raf. Am. Mo. Mag. 2: 344. March 1818
Yellow water crowfoot

R. multifidus Pursh, Fl. Am. Sept. 736. 1814. Not Forsk. 1775

R. fluviatilis Bigel. Fl. Bost. 139. 1814. Not Weber

R. delphinifolius Torr.; Eaton, Man. ed. 2, 395. 1818

R. lacustris Beck & Tracy; Eaton Man. ed. 3, 423. 1822; N. Y. Med. & Phys. Jour. 2: 112. 1823; Trans. Albany Inst. 1: 148. pl. 5

R. Purshii var. 1, Torrey, Fl. N. Y. 1: 14. 1843 (Var. A, Paine, Cat. Pl. Oneida Co. 54. 1865)

In shallow water of ponds, ditches, slow streams and lake shores. Infrequent or local across the State outside of the higher Adirondacks.

Marshes east of Onondaga lake, along Lake Ontario, and at Sodus Bay, Paine (Cat. 182. 1865). Lansingburg and near Lewiston, Beck & Tracy (N. Y. Med. & Phys. Jour. 2: 112. 1823). Irondequoit; West Henrietta, Chili and Gates, Monroe county, and in Wayne county and at Golah (Proc. Rochester Acad. 3: 42. 1896; 5: 84. 1917). Waverly, Millspaugh; Beechwood swamp, Clute (Fl. Upper Susquehanna 3. 1898). Tompkins county, Dudley (Cayuga Fl. 2. 1886). Wading River, Miller (Torr. Club Bul. 6: 258. 1878) Orient, Burnham & Latham (Torreya 14: 241. 1914). Staten Island, Hollick & Britton (Torr. Club. Bul. 18: 213. 1891). Watertown, Gray. Along Black creek east of Oneida lake, House. Lisbon, St Lawrence county, Mrs O. P. Phelps.

Emersed forms are designated as *R. delphinifolius* forma *terrestris* (Gray) Blake, Rhodora 15: 164. 1913 (*R. multifidus* var. *terrestris* Gray, Man. ed. 5, 41. 1867; *R. Purshii* var. 7, Paine, Cat. 55. 1865), and may be found with the typical species.

R. Purshii Richards. Frankl. 1st Jour. ed. 2, App. 751. 1823

This species probably does not occur in New York State, unless it be in the extreme northern part, although it has been more than once reported. The collection by Peck at Greenbush, which has been referred to *R. Purshii*, proves to be an emersed form of *R. flabellaris*. Near Oneida lake during certain seasons of exceptionally low water, the emersed form is common, other seasons with normal water conditions it cannot be found.

6 *Ranunculus pusillus* Poir. in Lam. Encycl. 6: 99. 1804

Low spearwort

In marshy places. Rare in southeastern New York.

Pelhamville, Westchester county, E. G. Britton (Torr. Club Bul. 13: 6. 1886). Staten Island, T. F. Allen (Clinton, in 19th Rep't N. Y. State Mus. 204. 1866). Formerly on New York Island (Torrey, Fl. N. Y. 1: 12. 1843).

7 *Ranunculus reptans* L. Sp. Pl. 549. 1753.

Creeping spearwort

- R. filiformis* Michx. Fl. Bor. Am. 1: 320. 1803
R. Flammula var. *reptans* E. Mey. Pl. Lab. 96. 1830
R. reptans var. *filiformis* DC. Prodr. 1: 32. 1824

On gravelly or sandy shores. Locally common throughout the State, especially northward and westward and in the Adirondacks. Less frequent southward in the State and reported from Long Island.

Occasionally the leaves are somewhat broader and the flowers larger, becoming var. *intermedius* (Hook.) T. & G., which Robinson, (Syn. Fl. 1¹: 27. 1895) reports from the shore of Lake Ontario.

Var. *ovalis* (Bigel.) T. & G. Fl. N. Am. 1: 16. 1838. (*R. filiformis* var. *ovalis* Bigel. Fl. Bost. ed. 2, 224. 1824), described as having leaves oval and lanceolate, is reported by Paine (Cat. 183. 1865), from Sodus Point, Wayne county. I have not seen this form, and cannot determine whether it is different from the var. *intermedius*.

8 *Ranunculus obtusiusculus* Raf. Med. Repos. (II) 5: 359. 1808

Water plantain spearwort

- R. ambigens* S. Wats. Bibl. Ind. 1: 16. 1878
R. flammula var. *laxiculmis* T. & G. Fl. N. Am. 1: 16. 1838
R. lingua Pursh, Fl. Am. Sept. 391. 1814. Not L.
R. flammula Torrey, Fl. N. Y. 1: 11. 1843. Not L.
R. laxiculmis Darby, Bot. So. States 204. 1866
R. alismacfolius A. Gray, Man. ed. 5 41. 1867. Not Geyer, 1848

In low wet meadows and marshes across the State from Rensselaer county to Lake Ontario and southward.

Troy, *J. Wright*, 1835. West Troy, *Gordinier*. Selkirk and Albany, Albany county, *Peck*. Sylvan Beach, Oneida county, *House*. Oswego, *C. S. Sheldon*. Western counties, *Kneiskern*; Crooked lake, *Sartwell* (Paine, Cat. Pl. Oneida Co. 55, 1865). Painted Post, Steuben county, *Arnold* (Cayuga Flora 3, 1886). Susquehanna river, *Clute* (Fl. Upper Susquehanna 3, 1898).

9 *Ranunculus abortivus* L. Sp. Pl. 551. 1753

Kidney or smooth-leaved crowfoot

In wet or marshy places and low moist woods. Common. Apparently merging into a slender non-succulent form (Var. *eucyclus* Fernald) which is common throughout the northern part of the State.

10 *Ranunculus micranthus* Nutt.; T. & G. Fl. N. Am. 1: 18. 1838

Rock crowfoot

In rich woods, often on rocks or on rocky slopes. Occasional in eastern New York outside of the Adirondacks and southward in the Hudson valley. Apparently uncommon or rare westward across the State.

- 11 **Ranunculus alleghaniensis** Britton, Torr. Club Bul. 22: 224
1895 Alleghenian crowfoot

In rich woods. Frequent in the Hudson valley and the southern counties of the State, westward to Lake Erie. Lime Rock, Genesee county, *Killip*.

- 12 **Ranunculus sceleratus** L. Sp. Pl. 551. 1753
Celery-leaved crowfoot

In swamps and wet ditches. Common along the coastal region and locally inland along the Hudson river, shores of Oneida lake, about the salt marshes of Onondaga lake and Montezuma, Cayuga marshes at Ithaca, shores of Seneca and Cayuga lakes, Lake Ontario and other localities. Perhaps in part naturalized from Europe.

- 13 **Ranunculus recurvatus** Poir. in Lam. Encycl. 6: 125. 1804
Rough crowfoot

R. lanuginosus Walt. Fl. Car. 159. 1788. Not L.

R. saniculaeformis Muhl. Cat. 54. 1813; Torrey in Eaton, Man. ed. 2, 397.
1818

R. fascicularis Spreng. New. Entd. 1: 228. 1820. Not. Michx.

In woods and moist thickets. Common or frequent in most sections of the State.

- 14 **Ranunculus acris** L. Sp. Pl. 554. 1753
Tall or meadow buttercup

In fields, meadows and waste places. Common. Naturalized from Europe. Variable in the shape of the leaf segments, pubescence and in size of petals. Critical studies which might indicate the varieties which occur in this State have apparently not been made. The var. **Steveni** (Andrz.) Lange, occurs in the eastern part of the State, and the other scanty collections in the state herbarium indicate that other varieties are represented in our flora.

- 15 **Ranunculus Boraeanus** Jordon, Obs. Pl. Crit. 6: 19. 1847

Perhaps only a variety of the preceding species. Native of Europe and collected near Gansevoort, Saratoga county, *Mrs O. P. Phelps* (*Rhodora* 21: 208. 1919, and in state herbarium).

16 **Ranunculus bulbosus** L. Sp. Pl. 554. 1753

Bulbous buttercup

In fields, along roadsides and in open woods. Naturalized from Europe and frequent in many sections of the State. A double-flowered form is often seen.

 17 **Ranunculus pennsylvanicus** L.f. Suppl. 272. 1781

Bristly buttercup or crowfoot

R. canadensis Jacq. Ic. Rar. 1: pl. 165. 1786

R. hispidus Pursh, Fl. Am. Sept. 395. 1814. Not Michx. 1803

R. trifolius Moench, Meth. Suppl. 70. 1794

In wet, open places. Common in most sections of the State.

 18 **Ranunculus repens** L. Sp. Pl. 554. 1753

Creeping or Clinton's buttercup

R. prostratus Poir. Encyc. Meth. 6: 113. 1804

R. tomentosus Poir., l.c. 127

R. intermedius Eaton, Man. ed. 3, 424. 1822

R. Clintoni Beck, Bot. 9. 1833

In low wet places or moist woodlands, often along roadsides and in old meadows. Frequent across the State outside of the Adirondacks and the higher Catskills.

A form with double flowers (forma **pleniflorus** Fernald), occurs in Genesee, Monroe, Herkimer and Albany counties, and doubtless elsewhere. According to Fernald (*Rhodora* 21: 169. 1919) the typical form has trailing or repent branches and stolons and is appressed pubescent; var. **villosus** LaMotte, has spreading pubescence; var. **glabratus** DC. has stems and petioles glabrous or nearly so; var. **erectus** DC. lacks the trailing or repent branches, and var. **linearilobus** DC. has narrow, acuminate lobes to the leaves.

 19 **Ranunculus septentrionalis** Poir. in Lam. Encycl. 6: 125. 1804

Swamp or marsh buttercup

In swamps, marshes and low wet ground. Frequent or common across the State, chiefly outside of the higher Adirondacks, southward to northern Long Island.

 20 **Ranunculus sicaeformis** Mackenzie & Bush, *Torreyia* 6: 123 1906

With the appearance and habit of *R. septentrionalis*, but of a brighter green color. The early leaves have more rounded lobes and the summer foliage is cut into broader segments. The stems are densely hirsute with white spreading hairs, especially toward the base and somewhat less so on the petioles. The leaves are quite markedly ap-

pressed pubescent on both surfaces, more densely so beneath; petals obovate, 8-12 mm. long and 6-10 mm. wide, achenes punctate and with a nearly straight, ascending tapering beak as long as the body.

Newcomb, Essex county, *H. D. House* 8050, June 10, 1921

21 *Ranunculus hispidus* Michx. Fl. Bor. Am. 1: 321. 1803

Hispid buttercup

R. marilandicus Poir. in Lam. Encycl. 6: 126. 1804

R. repens var. *marilandicus* T. & G. Fl. N. Am. 1: 21. 1838

In dry woods and thickets. Frequent or common from Rensselaer and Washington counties westward to Lake Ontario and southward. Apparently rare in the western part of the State.

Fernald (*Rhodora* 22: 30. 1920) describes the northern form with appressed pubescent stems as var. *falsus*. If this distinction holds, only two collections in the state herbarium (Irondequoit bay, *White*, and Fishers, Ontario county, *House*), are typical of the species. However several specimens from the Hudson valley are difficult to place, some of them with pubescence of the petioles and base of the stems spreading, but upwards on the stems decidedly appressed. Others gathered early are appressed pubescent, and specimens from the same colony gathered later for fruit, show more or less spreading pubescence, so that the variety is of doubtful distinctness. *Ranunculus cardiopetalus* Greene (*Ottawa Nat.* 16: 32. 1902), is the same as Fernald's variety.

22 *Ranunculus fascicularis* Muhl. Cat. 54. 1813

Early or tufted buttercup

In woods and thickets and on banks. Frequent or common across the State south of the Adirondacks and south to the highlands of the Hudson. Not reported from Long Island and Staten Island nor from the lower Hudson valley.

23 *Ranunculus parvulus* L. Mant. 1: 79. 1767 Hairy buttercup

On ballast grounds and in waste soil. A rare adventive near New York City. Native of Europe.

24 *Ranunculus parviflorus* L. Sp. Pl. ed. 2, 780. 1763

Small-flowered crowfoot

Naturalized from Europe in the southern States and reported as a waif about New York City.

25 *Ranunculus arvensis* L. Sp. Pl. 555. 1753 Corn crowfoot

Native of Europe and reported as an adventive in waste places about New York City.

THALICTRUM (Tourn.) L. Sp. Pl. 545. 1753

1 *Thalictrum revolutum* DC. Syst. 1: 173. 1818

Waxy meadow rue

T. purpurascens var. *ceriferum* Austin; Gray, Man. ed. 5, 39. 1867

Rocky woodlands and on riverbanks. Locally distributed.

Not common on Long Island and Staten Island, increasing northward but not known from the Catskills, *Taylor* (Fl. Vic. N. Y. 330. 1915). Fishkill mountains and Narrowsburg, *Peck*. Oneida, Madison county, *House*.

2 *Thalictrum dasycarpum* Fisch. & Lall. Ind. Sem. Hort. Petrop. 8: 72. 1842

Purplish or tall meadow rue

T. purpurascens Pursh, Fl. Am. Sept. 388. 1814, and subsequent American authors. Not L.

Common in the depressions of the sandy plains near Karner, Albany county, *Peck*, *House*. An outlying station for this southern species which ranges from New Jersey westward and southward.

3 *Thalictrum venulosum* Trelease, Proc. Bost. Soc. Nat. Hist. 23: 302. 1886

Veiny meadow rue

T. campestre Greene, Erythea 4: 123. 1896

T. confine Fernald, Rhodora 2: 232. 1900

In gravelly and rocky soil, especially along streams, and borders of lakes and ponds, chiefly in the northern part of the State. Rare.

Port Henry, *Peck* (N. Y. State Mus. Bul. 54: 944. 1902, as *T. occidentale*). Rossie, St Lawrence county, *Peck* (N. Y. State Mus. Bul. 139: 37. 1910, as *T. confine*).

4 *Thalictrum dioicum* L. Sp. Pl. 545. 1753

Early meadow rue

T. laevigatum Michx. Fl. Bor. Am. 1: 322. 1803

In woods, on rocky banks, and moist slopes. Common or frequent across the State north of the coastal plain of Long Island. Dr E. L. Greene (Ottawa Nat. 23: 37-40. 1909) describes varieties of this species occurring in Canada, one or two of which seem to be represented in our flora.

5 *Thalictrum canadense* Miller, Gard. Dict. ed. 8, No. 5. 1768

Fall or late meadow rue

T. confertum Moench, Meth. 297. 1794

T. polygonum (doubtfully Muhl. Cat. 54. 1813), Am. Auth.

T. corynellum DC. Prodr. 1: 12. 1824

T. Cornuti T. & G., Fl. N. Am. 1: 38. 1838. Not L.

T. pubescens Pursh, Fl. Am. Sept. 388. 1814

In moist or wet meadows, open sunny swamps and along streams and shores of lakes and ponds. Common in most sections of the States.

The species, as here considered is either quite variable or else consists of numerous subspecies or varieties, the distinctions of which can only be made clear by careful and extensive field observations.

Var. **hebecarpum** (Fernald) comb. nov.

T. polygamum var. *hebecarpum* Fernald, *Rhodora* 10: 49. 1908

T. sibellinum Greene, *Ottawa Nat.* 24: 30. 1910 (according to St. John,

Proc. Bost. Soc. Nat. Hist. 36: 75. 1921)

T. leucocrinum Greene, l.c. 29

Described as having carpels villous and the lower surfaces of the leaflets pubescent. This is a common form of the species northward across the state, especially in the Adirondacks. Typical *T. canadense* possesses glabrous carpels, but often has leaflets pubescent beneath.

Of the common representative of **T. canadense** Mill., south of the Canadian border, Dr E. L. Greene has proposed several segregates (Leaflets 2: 55-57. 1910), viz: *T. Bisselii*; *T. viride*; *T. setulosum* and *T. Mortoni* (from Ontario). A study of a large series of specimens, in both flower and fruit, from the north-eastern states will probably show that none of these are of specific importance, or that at most the plant of the Appalachian region and that of the coastal region may be of subspecific rank.

ADONIS (Dill.) L. Sp. Pl. 547. 1753

Adonis annua L., l.c.

Pheasant's or bird's eye

A. autumnalis L., Sp. Pl. ed. 2, 771. 1763

Occasional in cultivation, and rarely spontaneous or persistent in old yards and gardens or in waste places. Native of Europe.

As early as 1838, Torrey & Gray (*Fl. N. Am.* 1: 15) mention a specimen in the Muhlenberg herbarium from "Genesee Flatts" and the species was considered as possibly indigenous. Recent records of the species either as an escape or as an adventive are lacking, although reported several years ago on ballast on Staten Island.

NIGELLA (Tourn.) L. Sp. Pl. 534. 1753

Nigella damascena L., l.c.

Love-in-a-mist

Native of the Old World and frequent in cultivation. Reported by Day (*Pl. Buffalo* 14, 1883) as spontaneous in gardens and by Clinton (l.c. Day), as an escape.

CLEMATIS L. Sp. Pl. 543. 1753

Subgenus *Flammula*

Clematis, §. *Flammula* DC. Syst. 1: 131. 1818

Meclatis Spach, Hist. Veg. Phan. 7: 272. 1839

Sieboldia Hoffmgg. Preisv. Nachtr. 28. 1842 — *Linnaea* 16: Litt. 281. 1842

1 ***Clematis virginiana*** L. Amoen. 4: 275. 1759

Woodbine, virgin's bower

C. canadensis Mill. Gard. Dict. ed. 8, No. 5. 1768

C. virginica Pursh, Fl. Am. Sept. 384. 1814

C. fragrans Salisb. Prodr. 371. 1796

Clematitis cordifolia Moench, Meth. Suppl. 104. 1794

Clematis Purshii D. Dietr. Syn. Pl. 3: 345

In woods and thickets. Common in most sections of the State, and in the Adirondacks locally to nearly 3000 feet altitude. Largely absent from the pine-barrens of Long Island.

Subgenus *Viorna*

Viorna Reichenb.; Spach, Hist. Veg. Phan. 7: 268. 1839

2 ***Clematis ochroleuca*** Ait. Hort. Kew. 2: 260. 1789

Erect silky leather flower

C. sericea Michx. Fl. Bor. Am. 1: 319. 1803

Viorna ochroleuca Small, Fl. SE. U. S. 439. 1903

In sandy copses and hilly woods on Staten Island. Rare.

Paine (Cat. Pl. Oneida Co. 182. 1865) reports this from "sandy hilly woods westward of Crown Point, Essex county, *G. T. Stercus*". It is difficult to credit this report without further confirmation.

Subgenus *Atragene*

Atragene L. Sp. Pl. 543. 1753

3 ***Clematis verticillaris*** DC. Syst. 1: 166. 1818

Purple virgin's bower

Atragene americana Sims, Bot. Mag. pl. 887. 1806. Not *Clematis americana* Mill. 1768

C. hexagona Eaton, Man. ed. 2, 208, 504. 1818

In rocky woodlands and thickets. Infrequent or rare across the State from Washington and Warren counties, westward and southward to the Hudson highlands. Found chiefly on calcareous formations and in the western part of the State rare and local.

Helderberg mountains; Otsego county; Yates county and Little Falls, Paine (Cat. Pl. Oneida Co. 53. 1865). Bignose point, Montgomery county, and Unadilla Forks, Paine (l.c. 182). French mountain, Warren county, Burnham. Oakwood and Quakenkill, Rensselaer county, Gordinier & Howe (Fl. Rensselaer Co. 5, 1894) Coxsackie, Greene county, Miss Bogardus. Fishkill mountains

(Torrey, Fl. N. Y. 1: 7. 1843). Copake Falls *Burnham* (Torreya 13: 219. 1913). Fort Putnam, *W. W. Bailey* (Torr. Club. Bul. 13: 60. 1886) Jamesville, Onondaga county, *House*. A few localities in Tompkins county, *Dudley* (Cayuga Flora 1. 1886). Broome, Tioga and Steuben counties, *Clute*, (Fl. Upper Susquehanna 1. 1898). Portage, Wyoming county, *Mrs Moody & Miss Fish* (Bul. Buffalo Nat. Field Club 1: 87. 1883).

Family 31 **PODOPHYLLACEAE** DC. Prodr. 1: 111. 1824

BERBERIDACEAE Desv. Fl. Anjou, 293. 1827

Mayapple or Barberry family

BERBERIS (Tourn.) L. Sp. Pl. 330. 1753

Berberis vulgaris L., l.c.

European barberry

Native of Europe and Asia. Common in cultivation and common as an established plant in thickets, old fields and rocky woodlands, especially in the Hudson valley.

CAULOPHYLLUM Michx. Fl. Bor. Am. 1: 205. 1803

Caulophyllum thalictroides (L.) Michx. l.c.

Blue cohosh

Leontice thalictroides L. Sp. Pl. 312. 1753

In woods and thickets. Common in most sections of the State.

JEFFERSONIA B. S. Barton, Trans. Am. Phil. Soc. 3:

342. 1793

Jeffersonia diphylla (L.) Pers. Syn. 1: 418. 1805

Twin-leaf

Podophyllum diphyllum L. Sp. Pl. 505. 1753

J. binata B. S. Barton, l.c.

J. Bartonis Michx. Fl. Bor. Am. 1: 237. 1803

In woods, from Jefferson and Cayuga counties westward and southward. Rare.

Near Dexter, Jefferson county, *Vasey*; Geneva, *Sartwell* (Paine, Cat. Pl. Oneida Co. 58. 1865). Wayne, Monroe and Orleans counties (Proc. Rochester Acad. 3: 44. 1896; 5: 7. 1910; 5: 85. 1917). Dansville, Livingston county, *T. F. Lucy* (Torr. Club Bul. 10: 9. 1883). Niagara Falls, *Clinton* (Day, Cat. Pl. Buffalo 16, 1883). Canandaigua, *Mrs E. P. Gardner*. Levanna, Wood's Station and Aurora, Cayuga county, *Dudley* (Cayuga Flora 6, 1886).

PODOPHYLLUM L. Sp. Pl. 505. 1753

Podophyllum peltatum L., l.c.

May apple, wild mandrake

In low or rich open woods, or recent clearings, roadsides, etc. Frequent or common throughout most parts of the State. Not reported from Long Island. Rare on Staten Island. Rare and local in most

sections of the Adirondacks, and not reported from the extreme northern part of the State.

Family 32 **MENISPERMACEAE** DC. Prodr. 1: 95. 1824

Moonseed family

MENISPERMUM (Tourn.) L. Sp. Pl. 340. 1753

Menispermum canadense L., l.c. Moonseed

M. angulatum Moench, Meth. 277. 1794

M. virginicum L.; Willd. Sp. Pl. 4: 824. 1805

In woods and thickets, especially along streams. Frequent across the State. Rare or local on Long Island and Staten Island. Not reported from Delaware county, but common in Chenango county and from Broome county westward. Not reported from Essex county, and apparently absent from most sections of the Adirondack region.

Family 33 **CASSYTHACEAE** Dumort. Anal. Fam. 16. 1829

LAURACEAE Lindl. Nat. Syst. ed. 2, 200. 1836

Laurel family

SASSAFRAS Trew, Herb. Blackwell III. t 267. 1754

Sassafras Sassafras (L.) Karst. Deutsch. Fl. 505. 1880-83

Sassafras or ague tree

Laurus Sassafras L. Sp. Pl. 371. 1753

L. variifolium Salisb. Prodr. 344. 1796

S. officinale Nees & Eberm. Handb. Med.-Pharm. Bot. 2: 418. 1831. Not Siebold, 1830

S. variifolium Kuntze, Rev. Gen. Pl. 574. 1891

In dry or sandy soil. Locally common across the State outside of the Adirondack region. Absent from the higher Catskills and from most of the hills and limestone region from southern Albany county westward through southern Herkimer, Oneida and Madison counties. Extending locally northward to Warren and Lewis counties. Very common in the sandy plains between Albany and Schenectady, east and north of Oneida lake and throughout the Ontario lowlands from Jefferson county to Niagara county. Very common on Long Island and Staten Island.

The smoothish or glabrate form is discussed by Fernald (*Rhodora* 15: 14-18. 1913), under the name of **Sassafras variifolium** var. **albidum** (Nutt.) Fernald. The so-called white and red sassafras have long been recognized by certain authors. Nuttall called the white sassafras, *Laurus albida* (Gen. 1: 259. 1818), restricting the name *Laurus Sassafras* to the "red sassafras", which is also named

by Rafinesque, *Sassafras rubrum* (Sylva Tellur. 134). The distinction between the two forms seems to be scarcely of varietal rank.

BENZOIN Fabric. Enum. Pl. Hort. Helmst. 1763

Benzoin aestivale (L.) Nees, Syst. Laur. 495. 1836

Spice bush, Benjamn bush

Laurus aestivalis L. Sp. Pl. 370. 1753

L. Benzoin L., l.c.

Lindera Benzoin Blume, Mus. Bot. Lugd. 1: 324. 1857

Laurus pseudo-benzoin Michx. Fl. Bor. Am. 1: 243. 1803

Benzoin Benzoin Coulter, Torr. Club Mem. 5: 164. 1894

In moist woods, wooded swamps, along streams and in wet or moist clearings. Frequent or common across the State from Lake Champlain and Lake George to Lewis and Jefferson counties, westward to Lake Erie and southward, except in the pine-barrens of Long Island.

Family 34 **PAPAVERACEAE** B. Juss. Hort. Trian. 1759

Poppy family

PAPAVER L. Sp. Pl. 506. 1753

1 **Papaver somniferum** L., l.c. Opium or garden poppy

Widely cultivated in Europe and Asia. Frequent in cultivation in New York, in various forms and varieties, and often persistent, or occasional as an escape in waste grounds and on ballast.

2 **Papaver Rhoeas** L., l.c. 507 Field, red or corn poppy

Occasional in waste places and on ballast. Fugitive or adventive from Europe.

3 **Papaver dubium** L., Sp. Pl. 1196. 1753 Long smooth-fruited poppy

In waste and cultivated grounds and in ballast about seaports. Infrequent or rare. Adventive from Europe.

4 **Papaver Argemone** L., l.c. 506 Pale or long rough-fruited poppy

Rare as a waif on ballast. Native of southern Europe.

ARGEMONE L. Sp. Pl. 508. 1753

1 **Argemone mexicana** L., l.c. Mexican prickly or thorn poppy

Native of tropical America and a common weed in the warmer

parts of America. Adventive northward in waste places and on ballast about seaports. Reported from Staten Island, about New York City, Auburn and Rochester.

2 **Argemone alba** Lestib. Bot. Belg. ed. 2, 3²: 132. 1799

White prickly poppy

Native of the southern states. Sometimes cultivated for ornament and occasionally spontaneous in old gardens and waste ground in southern and eastern New York.

ESCHSCHOLTZIA Cham. in Nees, Hor. Phys. Berol. 73. t. 15. 1820

Eschscholtzia californica Cham., l.c. 74

Adventive at Rochester. (N. Y. State Mus. Bul. 167: 26. 1913).

SANGUINARIA (Dill.) L. Sp. Pl. 505. 1753

Sanguinaria canadensis L., l.c.

Bloodroot, puccoon root

S. acaulis Moench. Meth. 227. 1794

S. vernalis Salisb. Prodr. 377. 1796

S. Dilleniana Greene, Pittonia 5: 307. 1905

In rich woods, usually in alluvial soil. Frequent or common across the State, but absent from most of the Adirondack region and from the coastal plain and the pine-barrens of Long Island.

GLAUCIUM Mill. Gard. Dict. Abr. ed. 4. 1754

Mosenthinia Kuntze, Rev. Gen. Pl. 16. 1891

Glaucium Glaucium (L.) Karst. Deutsch. Fl. 649. 1880-83

Yellow horned poppy, sea poppy

Chelidonium Glaucium L. Sp. Pl. 506. 1753

G. flavum Crantz, Stirp. Aust. 2: 131. 1763

G. luteum Scop. Fl. Carn. ed. 2, 1: 369. 1772

M. Glaucium Kuntze, l.c.

Native of southern and middle Europe. Adventive on Long Island and near Syracuse. (32d Rep't N. Y. State Mus. 24. 1880; 52d Rep't, 651. 1899).

CHELIDONIUM (Tourn.) L. Sp. Pl. 505. 1753

Chelidonium majus L., l.c.

Celandine

In waste places, roadsides and sometimes in woods. Naturalized or adventive from Europe and rather frequent throughout the State outside of the higher mountainous sections, and especially in and near towns and cities.

Family 35 **FUMARIACEAE** DC. Syst. 2: 104. 1821

Fumewort or fumitory family

CAPNORCHIS (Boerh.) Mill. Gard. Dict. 4th abr. ed. 1754*Bicuculla* Adans. Fam. Pl. 2: App. 23. 1763 (*Bikukulla*)*Diclytra* Borck.; Roem. Arch. 1: 46. 1797*Cucularia* Raf. Med. Repos. (II) 5: 352. 1808*Dicentra* Bernh. Linnaea 8: 468. 18331 **Capnorchis Cucullaria** (L.) Planch. Fl. des Serres I. 8: 193.
1852 Dutchman's breeches*Fumaria Cucullaria* L. Sp. Pl. 699. 1753*Cucularia bulbosa* Raf., l.c.*Dicentra Cucullaria* Torrey, Fl. N. Y. 1: 45. 1843*Bicuculla Cucullaria* Millsp. Bul. W. Va. Agr. Exp. Sta. 2: 327. 1892*Cucularia Cucullaria* Farwell, Rep't. Mich. Acad. Sci. 2: 48. 1901

In rich soil in woods. Common across the State outside of the higher Adirondacks and north of the coastal plain.

2 **Capnorchis canadensis** (Goldie) Kuntze, Rev. Gen. Pl. 15. 1891
Squirrel corn, turkey corn*Corydalis canadensis* Goldie, Edinb. Phil. Jour. 6: 329. 1822*Dicentra canadensis* Walp. Rep. 1: 118. 1842*Bicuculla canadensis* Millsp., l.c.

In rich soil in woods. Common or frequent northward across the State and westward to Lake Erie. Rare in the lower Hudson valley but frequent in the Catskill region and uncommon or local in the southern tier of counties bordering on Pennsylvania.

3 **Capnorchis eximia** (Ker.) Planch., l.c. Wild bleeding hearts*Fumaria eximia* Ker. Bot. Reg. 1: pl. 50. 1815*Corydalis formosa* Pursh, Fl. Am. Sept. 464. 1814*Dicentra eximia* Torrey, l.c. 46*Bicuculla eximia* Millsp., l.c.

Very rare in central and western New York.

Yates county, *Sartwell* (Torrey, l.c.); *Clinton* (19th Rep't Regents 77. 1866) cites a letter from Sartwell to Professor Pickett, stating "about 20 years ago I found it in Wayne county, not far from Lyons and David Thomas found it at Scipio, Cayuga county about the same time or before." Dudley (Cayuga Flora 8, 1886) gives the locality as Junius, Seneca county. Not recently collected in this State.

ADLUMIA Raf. Med. Repos. (II) 5: 352. 1808*Adlumia fungosa* (Ait.) Greene; B.S.P. Prel. Cat. N. Y. 3. 1888

Alleghany vine, mountain fringe

Fumaria fungosa Ait. Hort. Kew. 3: 1. 1789
Adlumia cirrhosa Raf., l.c.
Fumaria recta Michx. Fl. Bor. Am. 2: 51. 1803

In moist woods and thickets or on rocky banks. Infrequent or local across the State from Lake Champlain to St Lawrence county, outside of the Adirondacks, westward and southward.

North to Lake Champlain (*Torrey*). Haynes Falls, *Lighthipe* (Torr. Club Bul. 19: 349. 1892). Cornwall, *Merrill* (Torr. Club Bul. 13: 6. 1886). Crow's Nest, *W. W. Bailey* (Torr. Club Bul. 13: 60. 1886). Very rare on north shore of Long Island, unknown on Staten Island, rare in Westchester county, *Taylor* (Fl. Vic. N. Y. 1915). Wilton and Greenfield, Saratoga county, *Phelps*. Helderberg mountains, *Pearson*; Otsego county, *Miss Cooper*; *H. Lathrop*; *B. D. Gilbert*; *Junius Sartwell*; Greece and Parma, Monroe county, *Bradley* (Paine, Cat. Pl. Oneida Co. 59. 1865). Watkins, Schuyler county, *Dudley* (Cayuga Flora 8. 1886). Shores of Lake Ontario, *Beckwith*; Sandy Creek, *Baxter*; Mumford, *Haynes*; Hamlin, *Lennon* (Proc. Rochester Acad. 3: 45. 1896; 5: 85. 1917). Oneida, Madison county, *House*. Jamesville, Onondaga county, *House*. Hammond, St Lawrence county, *Mrs O. P. Phelps*.

CAPNOIDES (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754
Neckeria Scop. Introd. 313. 1777
Corydalis Medic. Phil. Bot. 96. 1789

1 **Capnoides sempervirens** (L.) Borck. in Roem. Arch. 1²: 44. 1797
 Pink or pale corydalis

Fumaria sempervirens L. Sp. Pl. 700. 1753
Corydalis sempervirens Pers. Syn. 2: 269. 1807
Corydalis glauca Pursh. Fl. Am. Sept. 463. 1814
Neckeria sempervirens Neck. Elem. 3: 60. 1790

In rocky places or recently cleared ground. Common across the northern part of the State and southward throughout the Hudson valley, the Catskill mountain region and the Mohawk valley. Less frequent or rare westward to Lake Erie. Not reported from either Long Island or Staten Island.

2 **Capnoides flavulum** (Raf.) Kuntze, Rev. Gen. Pl. 14. 1891
 Pale or yellow corydalis

Corydalis flavula Raf.; DC. Prodr. 1: 129. 1824
Neckeria flavula Millsp. Bul. W. Va. Agric. Exp. Sta. 2: 327. 1892

In rocky woods. Infrequent or rare in the lower Hudson valley westward to Onondaga county and Ontario in Canada.

Ulster, Dutchess, Orange, Rockland, Putnam and Westchester counties and on Manhasset neck, Long Island, *Taylor* (Fl. Vic. N. Y. 335. 1915). Onondaga county, *Underwood* (45th Rep't

N. Y. State Mus. 25. 1893). Lime Rock, Genesee county, *Beckwith* (Proc. Rochester Acad. 3: 45. 1896).

3 **Capnoides aureum** (Willd.) Kuntze, Rev. Gen. Pl. 14. 1891
Golden corydalis

Corydalis aurea Willd. Enum. 740. 1806
Neckeria aurea Millsp., l.c.

In woods and on rocky banks. Infrequent or rare across the State from Saratoga and Dutchess county to Lewis, Jefferson, Oneida and Tompkins counties, and perhaps of wider distribution.

Stissing mountain, Dutchess county, *Hoysradt* (Torr. Club Bul. 5: 47. 1874. Saratoga lake, *Phelps*. Lucifer falls, Tompkins county, *Dudley*. (Cayuga Flora 9. 1886). Denmark, Lewis county, *Hough* (Cat. Pl. Lewis Co. 3. 1846). North side of Black river between Watertown and Brownville, and near Oriskany, Oneida county, *Paine* (Cat. 59. 1865).

FUMARIA (Tourn.) L. Sp. Pl. 699. 1753

Fumaria officinalis L., l.c. 700. Fumitory, hedge fumitory

In waste places and on ballast and occasionally as an escape from cultivation. Native of Europe.

Fumaria parviflora Lam., and **F. capreolata** L., have been reported as ballast plants near New York City.

Family 36 **BRASSICACEAE** Lindl. Nat. Syst. ed. 2, 58. 1836
(**Cruciferae** B. Juss. Hort. Trian. 1759)

Mustard family

DRABA (Dill.) L. Sp. Pl. 642. 1753

Section *Erophila* Koch

Gansblum Adans. Fam. Pl. 2: 420. 1763
Erophila DC. Syst. 2: 356. 1821

1 **Draba verna** L., l.c. Whitlow grass

D. verna var. *americana* Pers. Syn. 2: 190. 1805

Erophila vulgaris DC., l.c.

E. americana DC. Prodr. 1: 173. 1824

E. verna E. Mey. Gartenfl. Deutsch. ed. 4, 35

In sandy waste places and roadsides. Frequent in southern New York. Occasional or local, elsewhere. Naturalized from Europe.

Section *Drabella* DC.

2 **Draba caroliniana** Walt. Fl. Car. 174. 1788
Carolina whitlow grass

D. hispidula Michx. Fl. Bor. Am. 2: 28. 1803
Arabis rotundifolia Raf. Am. Mo. Mag. 2: 43. 1817
Tomostima caroliniana Nieuwl. Am. Mid. Nat. 4: 32. 1915

In sandy and waste fields. Rare on Long Island, Staten Island and in Westchester county, but not recently collected (Taylor).

Section *Drabaea* Lindbl.

3 *Draba arabisans* Michx. Fl. Bor. Am. 2: 28. 1803

Rockcress whitlow grass

D. Arabis Pers. Syn. 2: 190. 1805
D. glabella Pursh, Fl. Am. Sept. 434. 1814
D. Henneana Schlecht. Linnaea 10: 100. 1836
D. canadensis Brunet, Pl. Canad. 21. 1867
D. incana var. *arabisans* S. Wats. Proc. Am. Acad. 23: 260. 1888
D. incana var. *glabriuscula* A. Gray, Ann. Lyc. N. Y. 3: 223. 1835

On rocky, usually calcareous banks. Rare in the northern and western portions of the State.

Wallface mountain, *Peck* (N. Y. State Mus. Bul. 54: 957. 1902)
 Indian Pass, *Peck* (Bul. 28: 78. 1899). Borders of small lakes in northern part of State, St Lawrence county, *Gray*; Black river, Jefferson county, *Vasey*; Sackett's Harbor, *Kneiskern* (Paine, Cat. 61. 1865). Esty glen and shore of Cayuga lake, *Dudley* (Cayuga Fl. & 36th Rep't N. Y. State Mus. 36. 1884). Akron, Erie county, *Day & Clinton* (19th Rep't N. Y. State Mus. 204. 1866).

BERTEROA DC. Mem. Mus. Paris 7: 232. 1821

Berteroa incana (L.) DC. Syst. 2: 291. 1821 Hoary alyssum

Alyssum incanum L. Sp. Pl. 650. 1753
Farsetia incana R. Br., Ait. f. Hort. Kew. ed. 2, 4: 97. 1812

In waste places. Frequent or local about towns and cities. Naturalized from Europe.

KONIGA Adans. Fam. Pl. 2: 420. 1763 (as *Konig*, and latinized by R. Brown, in 1826)

Lobularia Desv. Jour. Bot. 3: 192. 1813
Glyce Lindl. Syn. Brit. Fl. 26. 1829

Koniga maritima (L.) R. Br. in Denh. & Clapp, Narr. Exp. Afric. 214. 1826 Sweet alyssum, seaside koniga

Clypeola maritima L. Sp. Pl. 652. 1753
Lobularia maritima Desv., l.c.
Alyssum maritimum Lam. Encycl. 1: 98. 1783
Glyce maritima Lindl., l.c.

In waste places, usually escaped from gardens. Adventive or naturalized from Europe. Not common.

ALYSSUM (Tourn.) L. Sp. Pl. 650. 1753**Alyssum alyssoides** L. Syst. ed. 10, 1130. 1759

Yellow or small alyssum

Clypeola alyssoides L. Sp. Pl. 652. 1753*A. calycinum* L. Sp. Pl. ed. 2, 908. 1763

In fields and waste ground and on ballast. Reported from Ithaca, from several localities in Monroe county and about New York City. Probably of wider distribution in the State. Naturalized from Europe.

CAMELINA Crantz, Stirp. Austr. 1: 18. 17621 **Camelina sativa** (L.) Crantz., l.c.

Gold-of-pleasure, false or dutch flax

Myagrum sativum L. Sp. Pl. 641. 1753

In fields, especially where flax has been grown, and in waste places. Frequent or common. Naturalized from Europe, where it is cultivated for the oil obtained from its seeds.

2 **Camelina microcarpa** Andr.; DC. Syst. 2: 517. 1821

Small-fruited false flax

C. sylvestris Wallr. Sched. Crit. 347. 1822

In waste places. Infrequent about the larger cities and towns across the State. Several recent collections seem to indicate that it is of recent introduction and increasing rapidly.

BURSA (Siegesb.) Weber in Wigg. Prim. Fl. Holst. 47. 1780*Capsella* Medic. Pfl. Gatt. 1: 85. 1792**Bursa Bursa-pastoris** (L.) Britton, Torr. Club Mem. 5: 172. 1894

Shepherd's purse

Thlaspi Bursa-pastoris L. Sp. Pl. 647. 1753*Bursa pastoris* Weber, l.c.*Capsella Bursa-pastoris* Medic., l.c.

In fields, cultivated ground and waste places. Very common. Naturalized from Europe.

NESLIA Desv. Jour. Bot. 3: 162. 1814**Sphaerocarpus** Heist.; Fabr. Enum. Pl. Hort. Helmst. 1763. Not Adans. 1763**Neslia paniculata** (L.) Desv., l.c.

Ball mustard

Myagrium paniculatum L. Sp. Pl. 641. 1753

In waste places and on ballast. Infrequent or rare. Adventive from Europe. Reported on ballast about New York City and in waste places near Rochester.

RAPISTRUM (Tourn.) Medic. Phil. Bot. 1: 190. 1789
Schrankia Medic. Pflanzeng. 42. 1792

Rapistrum rugosum (L.) All. Fl. Pedem. 1: 257. 1785

Myagrum rugosum L. Sp. Pl. 640. 1753
Schrankia rugosa Medic., l.c. 44

Native of Europe. An occasional ballast plant about New York City and on Staten Island.

RADICULA Hill, Brit. Herb. 256. 1756

Roripa Scop. Fl. Carn. 520. 1760
Brachiolobus All. Fl. Pedem. 1: 278. 1785
Nasturtium R. Br.; Ait. Hort. Kew. ed. 2, 4: 109. 1812

1 **Radicula sylvestris** (L.) Druce, List Br. Pl. 4. 1908
 Creeping yellow water cress

Sisymbrium sylvestre L. Sp. Pl. 657. 1753
Radicula pinnata Moench, Meth. 263. 1794
Nasturtium sylvestre R. Br., l.c. 110
Roripa sylvestris Bess. Enum. 27. 1821

In wet or swampy grounds and waste places. Frequent in most sections of the State. Naturalized from Europe.

2 **Radicula palustris** (L.) Moench, Metch. 263. 1794
 Marsh or yellow water cress

Sisymbrium amphibium var. *palustre* L. Sp. Pl. 657. 1753
Nasturtium terrestre R. Br. l.c. 110
N. palustre DC. Syst. 2: 191. 1821
Roripa palustris Bess., l.c.

In wet places. Frequent or common across the State outside of the Adirondacks. Naturalized from Europe, but said to be native westward.

3 **Radicula hispida** (Desv.) Britton, Torrey 6: 30. 1906
 Hispid yellow cress

Brachylobus hispidus Desv. Jour. Bot. 3: 183. 1814
Nasturtium hispidum DC. Syst. 2: 201. 1821
N. palustre var. *hispidum* A. Gray, Man. ed. 2, 30. 1856
Roripa hispida Britton, Torr. Club. Mem. 5: 169. 1894
Radicula palustris var. *hispida* Robinson, Rhodora 10: 32. 1908

In wet places. Frequent across the State, especially southward, but rarely reported northward, and infrequent in the western part of the State.

4 **Radicula austriaca** (Crantz), Small, *Torrey* 23: 23. 1923

Nasturtium austriacum Crantz, *Stirp. Austr.* 15. 1762

Roripa austriaca Spach, *Hist. Veg. Phan.* 6: 513. 1838

Native of central Europe, and reported as naturalized at New Milford, Orange county, *A. H. Hansen* (*Torrey* 22: 73. 1922).

SISYMBRIUM (Tourn.) L. *Sp. Pl.* 657. 1753

Sisymbrium Nasturtium-aquaticum L., l.c. True water cress

Nasturtium aquaticum R. Br.; Ait. *Hort. Kew.* ed. 2, 4: 110. 1812

Roripa nasturtium Rusby, *Torr. Club. Mem.* 3³: 5. 1893

Radicula nasturtium-aquaticum Britten & Rendle, *Br. Seed Pl.* 3. 1907

In brooks, streams and ditches. Common in most sections of the State. Naturalized from Europe.

ARMORACIA Gaertner, Meyer & Scherbius, *Fl. Wetteran* 2: 426. 1800

Armoracia Armoracia (L.) Cockerell, *Univ. Mo. Stud. (Sci. Ser.)* 2²: 130. 1911 Horse-radish

Cochlearia Armoracia L. *Sp.* 648. 1753

Nasturtium Armoracia Fries; A. Gray, *Man.* ed. 2, 31. 1856

A. rusticana Gaertn., Mey. & Scherb., l.c.

Roripa Armoracia Hitchc. *Spring Fl. Manhattan* 18. 1894

Radicula Armoracia Robinson, *Rhodora* 10: 32. 1908

Escaped from gardens into moist ground, especially along streams. Native of Europe.

NEOBECKIA Greene, *Pittonia* 3: 95. 1896

Neobeckia aquatica (Eaton) Greene, l.c.

Lake water cress, river cress

Cochlearia aquatica Eaton, *Man.* ed. 5, 181. 1829

Nasturtium natans var. *americanum* A. Gray, *Ann. Lyc. N. Y.* 3: 223. 1836

N. lacustre A. Gray, *Gen. Pl. U. S.* 1: 132. 1849

Roripa americana Britton, *Torr. Club. Mem.* 5: 169. 1894

Radicula aquatica Robinson, *Rhodora* 10: 32. 1908

In lakes, ponds and slow streams, northern, central and western parts of the State. Infrequent or rare.

Discovered at Oneida lake by Gray in 1831 (*Rhodora* 7: 142. 1905). St Lawrence river near Ogdensburg, *Crawe*; Shore of Oneida creek near its mouth, *Paine* (*Cat. Pl. Oneida Co.* 60. 1865). Lake Pleasant and Champion, Lewis county, *Hough*. Common in bays and inlets of Lake Ontario and at Sodus bay, *Killip* (*Proc. Rochester Acad.* 3: 46. 1896; 5: 86. 1917). Canton, St Lawrence county, *Phelps*. Black creek, Bergen swamp, Genesee county, *Peck* (40th Rep't N. Y. State Mus. 72. 1887). Inlet of Owasco lake, *Peck* (45th Rep't 26. 1893). Buffalo, *Clinton* (19th Rep't Regents 204. 1866). Oswego, *C. S. Sheldon*.

LEPIDIDIUM (Tourn.) L. Sp. Pl. 643. 1753

- 1 **Lepidium campestre** (L.) R. Br. in Ait. f. Hort. Kew. ed. 2, 4: 88. 1812 Field, cow or bastard cress

Thlaspi campestre L. Sp. Pl. 646. 1753

In fields and waste places. Frequent or common in many sections of the State. Naturalized from Europe.

- 2 **Lepidium Draba** L. Sp. Pl. 645. 1753 Hoary cress
Cardaria Draba Desv. Jour. Bot. 3: 163. 1813

In waste ground. Reported as adventive at Astoria and at Syracuse (Eaton in Gray, Add. Bot. No. U. S. xc. 1863). Native of Europe.

- 3 **Lepidium ruderales** L. Sp. Pl. 645. 1753 Roadside or narrow-leaved pepper grass

In waste places, on ballast and along railroads and roadsides. Rare or locally frequent about some of the larger cities and towns. Naturalized or adventive from Europe.

- 4 **Lepidium virginicum** L., l.c. Wild pepper grass

In fields and along roadsides, often in waste places. Common in most sections of the State, outside of the higher mountains.

- 5 **Lepidium neglectum** Thellung, Bul. Herb. Boiss. II. 4: 708. 1904

Frequent or occasional in the southeastern part of the State, usually with *L. densiflorum*, which it closely resembles, and of which it is probably only a race.

- 6 **Lepidium densiflorum** Schrad. Ind. Sem. Goett. 4. 1835 Wild pepper grass

L. intermedium A. Gray, Man. ed. 2, 1856. Not A. Rich. 1847
L. apetalum Robinson, in A. Gray, Syn. Fl. 1¹: 127. 1895. Not Willd.
L. ramosissimum A. Nels. Torr. Club Bul. 26: 124. 1899
L. medium Greene, of N. Y. Reports

In dry soil, often in waste places. Frequent or common across the State south of the Adirondack region. Naturalized from Europe.

- 7 **Lepidium sativum** L., l.c. 644 Garden, town or golden pepper grass

Occasional in waste places, especially about cities and towns. usually as an escape from gardens. Native of Europe.

- 8 *Lepidium perfoliatum* L., l.c. 643 Perfoliate pepper grass
Native of Europe. Naturalized or adventive along railroad tracks at Pittsford, Monroe county (*Boughton*).

CARARA Medic. Pflanzeng. 1: 34. 1792

Coronopus Gaertn. Fruct. & Sem. 2: 293. 1791. Not Mill. 1754

- 1 *Carara didyma* (L.) Britton, Illus. Fl. ed. 2, 2: 167. 1913
Lesser wart grass

Lepidium didymum L. Mant. 92. 1767

Senebiera didyma Pers. Syn. 2: 185. 1807

Coronopus didymus J. E. Smith, Fl. Brit. 3: 691. 1800

In waste places and on ballast about New York City. Adventive from the warmer parts of the Old World.

- 2 *Carara Coronopus* (L.) Medic., l.c. 35

Wart or swine's cress, wartwort

Cochlearia Coronopus L. Sp. Pl. 648. 1753

Senebiera Coronopus Poir. in Lam. Encycl. 7: 76. 1806

Coronopus Coronopus Karst. Deutsch. Fl. 673. 1880-83

In waste places and on ballast, chiefly about New York City. Also in Chenango county, *Coville* (N. Y. State Mus. Bul. 167: 25. 1913). Adventive from Europe.

THLASPI (Tourn.) L. Sp. Pl. 645. 1753

- 1 *Thlaspi arvense* L. Sp. Pl. 646. 1753 Field pennycress

In waste places and on ballast. Infrequent or rare. Adventive or sparingly naturalized from Europe.

- 2 *Thlaspi perfoliatum* L. Sp. Pl. 646. 1753

Perfoliate pennycress

Native of Europe. Adventive at Geneva, *F. C. Stewart* (N. Y. State Mus. Bul. 150: 39. 1911).

ALLIARIA Adans. Fam. Pl. 2: 418. 1763

Sisymbrium St. Lag., Ann. Soc. Bot. Lyon. 7: 113, 135. 1880

- Alliaria Alliaria* (L.) Britton, Torr. Club Mem. 5: 167. 1894

Hedge garlic, garlic mustard

Erysimum Alliaria L. Sp. Pl. 660. 1753

E. alliaceum Salisb. Prodr. 270. 1796

Sisymbrium Alliaria Scop. Fl. Carn. ed. 2, 2: 26. 1772

Alliaria officinalis Andrzej. in Bieb. Fl. Taur.-Cauc. 3: 445. 1819- DC. Syst. 2: 489. 1821

A. Fuchsii, and *A. Mathioli* Rupr. Fl. Cauc. 85. 1869

A. alliacea Britten & Rendle, Jour. Bot. 45: 100. 1907

In waste places, woods and along roadsides and railroads. Becoming frequent or common in some sections of the State. Naturalized from Europe.

SOPHIA Adans. Fam. Pl. 2: 417. 1763

Descurainia Webb. & Barth. Phyt. Can. 1: 71. 1836

- 1 **Sophia Sophia** (L.) Britton, in B. & B. Illus. Fl. 2: 144. 1897
Flixweed, herb sophia

Sisymbrium Sophia L. Sp. Pl. 659. 1753

Sisymbrium parviflorum Lam. Fl. Fr. 2: 519. 1778

Sophia parviflora Standley, Contr. U. S. Nat. Herb. 22: 347. 1921

Sophia multifida Gilib. Exercit. 1: 243. 1793

In waste places about towns and cities. Infrequent. Naturalized or adventive from Europe.

- 2 **Sophia brachycarpa** (Richards.) Rydb.; Britton, Man. 462. 1901
Northern tansy mustard

Sisymbrium brachycarpon Richards. in Frankl. 1st Jour. App. ed. 1, 744. 1823

S. canescens var. *brachycarpon* Wats. Bibl. Ind. 69. 1878

S. canescens and *Sophia canescens* of N. Y. Reports

Sophia pinnata var. *brachycarpa* Farwell, Rep't Mich. Acad. Sci. 2: 49. 1901

In dry soil, usually in open rocky woods or on cliffs and ledges. A species of the northwest extending southward into New York to Tompkins county and Lake Champlain.

Watkins, *Prentiss* (Torr. Club Bul. 4: 15. 1873); *Dudley* (36th Rep't N. Y. State Mus. 35. 1884); Lucifer falls, Tompkins county
J. W. Chickering (Gray's Manual, ed. 6). Westport, C. G.
Pringle (Torr. Club Bul. 6: 272. 1878). Garden island, Lake Champlain, *Brainerd*. Crown Point, *Eggleston*, *Peck*.

CHEIRINIA Link, Enum. Hort. Berol. 2: 170. 1820

- 1 **Cheirinia cheiranthoides** (L.) Link, l.c.

Wormseed or treacle mustard

Erysimum cheiranthoides L. Sp. Pl. 661. 1753

Banks of streams and in sterile soil in open places. Native but appearing adventive. Frequent or common in most sections of the State outside of the higher Adirondacks.

- 2 **Cheirinia inconspicua** (S. Wats.) Britton, in Britton & Brown, Illus. Fl. ed. 2, 2: 172. 1913 Small-flowered prairie-rocket

Erysimum parviflorum Nutt.; T. & G. Fl. N. Am. 1: 95. 1838. Not Pers.

E. asperum var. *inconspicuum* S. Wats. Bot. King Exp. 24. 1871

E. sylvicolum Sheldon, Torr. Club Bul. 20: 285. 1893

In dry soil. Rare in western New York where probably adventive from Ontario and the West.

- 3 **Cheirinia repanda** (L.) Link, l.c. 171. Repand cheirinia
Erysimum repandum L. Moen. Acad. 3: 415

Occasional as a waif on ballast near New York. Native of Europe.

ERYSIMUM (Tourn.) L. Sp. Pl. 660. 1753

Chamaeplium Wallr. Sched. Crit. 1: 376. 1822
Sisymbrium § *Velarum* DC. Syst. 2: 459. 1821

- Erysimum officinale** L., l.c. Hedge mustard
Sisymbrium officinale Scop. Fl. Carn. Ed. 2, 2: 26. 1772
Chamaeplium officinale Wallr., l.c. 377

In waste places. Common throughout the State. Naturalized from Europe.

NORTA Adans. Fam. Pl. 2: 47. 1763

- 1 **Norta altissima** (L.) Britton, in B. & B., Illus. Fl. ed. 2, 2: 174.
 1913 Tall sisymbrium

Sisymbrium altissimum L. Sp. Pl. 659. 1753
S. sinapistrum Crantz, Stirp. Austr. ed. 2, 52. 1769

In waste places and cultivated ground. Common in most sections of the State especially about cities and towns and along railroads. Naturalized from Europe.

- 2 **Norta Irio** (L.) Britton, l.c.
Sisymbrium Irio L., Sp. Pl. 659. 1753

Occasional as a weed on ballast near New York. Native of Europe.

CONRINGIA (Heist.) Adans. Fam. Pl. 2: 418. 1763

- Conringia orientalis** (L.) Dumort. Fl. Belg. 123. 1827
 Hare's ear, treacle mustard

Brassica orientalis L. Sp. Pl. 666. 1753
Erysimum perfoliatum Crantz, Stirp. Austr. 1: 27. 1762
Brassica perfoliata Lam. Encycl. 1: 748. 1785
Erysimum orientale R. Br.; Ait. Hort. Kew. ed. 2, 4: 117. 1812
C. perfoliata Link, Enum. 2: 172. 1822

In waste places, occasional or locally common about cities and towns and along railroads. Naturalized from Europe.

HESPERIS (Tourn.) L. Sp. Pl. 663. 1753

Hesperis matronalis L., l.c. Dame's rocket, dame's violet

In fields and along roadsides, sometimes in waste places. Escaped from cultivation. Native of Europe and Asia.

ARABIDIOPSIS (DC.) Schur. Enum. Pl. Trans. 55. 1866

Pilosella (Thal) Kostel. Enum. Hort. Prag. 104, Hyponym. 1844

Stenophragma Celak, Flora 55: 438. 1872

Arabidiopsis Thaliana (L.) Britton, in B. & B. Illus. Fl. ed. 2: 176.

1913

Mouse-ear or thale cress

Arabis Thaliana L. Sp. Pl. 665. 1753

Sisymbrium Thalianum Gay, Ann. Sci. Nat. 7: 399. 1826

Stenophragma Thaliana Celak. Oester. Bot. Zeitsch. 27: 177. 1877

In old fields and rocky places. Infrequent or locally abundant across the state, chiefly southward. Naturalized from Europe.

CAMPE Dulac, Fl. Hautes-Pyr. 199. 1867

Barbarea R. Br.; Ait. Hort. Kew. ed. 2, 4: 109. 1812. Not Scop. 1760

1 Campe Barbarea (L.) Wight, Contr. U. S. Nat. Herb. 11: 303.

1906

Yellow rocket or bitter cress

Erysimum Barbarea L. Sp. Pl. 660. 1753

B. vulgaris R. Br., l.c.

Arabis parviflora Raf. Am. Mo. Mag. 2: 43. 1817

E. lyratum Gilib. Fl. Lith. 2: 59. 1782

B. Barbarea MacM. Met. Minn. 259. 1892

Campe vulgaris Dulac., l.c.

B. lyrata Ascherson, Fl. Brand. 1: 35. 1864

In fields and waste places. Frequent or common in most sections of the State. Northward in moist open places, and on shores of ponds and lakes and appearing indigenous. Regarded southward in the State as being naturalized from Europe.

Var. **hirsuta** (Weihe.) comb. nov.

Barbarea hirsuta Weihe, Flora 13: 257. 1830

Barbarea vulgaris var. *hirsuta* Fernald, Rhodora 11: 139. 1909

Reported as adventive in Maine, and to be looked for in northern New York.

2 Campe stricta (Andrzejowski) Wight, l.c.

Erect-fruited winter grass

B. stricta Andrzejowski, in Bess. Enum. Pl. Volh. 72. 1822

B. vulgaris var. *stricta* A. Gray, Man. ed. 2, 35. 1856

In fields and waste places. Regarded by some authorities as naturalized from Europe, by others as indigenous northward and westward.

This is the *Barbarea stricta* Bor. Fl. Centre de la Fr. 2: 48. 1840, of Britton & Brown, Illus. Fl. 2: 177. 1915, and the var. *stricta* of Gray's Manual ed. 2, 35. 1856. Bicknell (Torr. Club Bul. 37: 68. 1910), regards it as the same as the *B. stricta* of Andrzejowski, but Fernald (Rhodora 11: 135, 136. 1909) does not so consider it.

Bicknell (l.c.) distinguishes a closely related form occurring in the eastern and southern part of the State as being naturalized from Europe, and designates it as *Campe rivularis* (Martr.) Heller (Cat. ed. 3. 138. 1912), *Barbarea rivularis* Martr. Pl. Crit. du Tarn. 1: 9. 1862). Fernald (l.c. 139) calls this form *Barbarea vulgaris* var. *longisiliquosa* Carion.

Var. *taurica* (DC.) House, N. Y. State Mus. Bul. 243-244: 60. 1923.

Barbarea taurica DC. Syst. 2: 207. 1821

B. arcuata Reichenb. Flora 5: 206. 1822

B. vulgaris var. *arcuata* Fries, Novit. Fl. Suec. 205. 1828

A variety, or perhaps little more than a form with arcuate-ascending pods, occasional in this State, and which is apparently naturalized or adventive from Europe.

3 *Campe verna* (Mill.) Heller, Cat. ed 3, 138. 1912

Early winter Belle Isle or land cress

Erysimum vernum Mill. Gard. Dict. ed. 8, No. 3, 1763

E. praecox J. E. Smith, Fl. Brit. 2: 707. 1800

B. praecox R. Br., l.c.

B. verna Ascherson, l.c. 36

C. praecox Dulac., l.c.

In waste places Occasional in cultivation, and rare as an escape or adventive in southern and eastern New York and a few other widely scattered localities across the State. Native of Europe.

Campe orthoceras (Ledeb) Heller, l.c.

A species closely related to *C. verna*, native of the subarctic and boreal regions, ranging southward to Lake Huron, New Hampshire and Maine, which may be looked for on the higher Adirondacks.

ARABIS L. Sp. Pl. 664. 1753

Erysimum Kuntze, Rev. Gen. Pl. 27, 931. 1891

Section *Sisymbriina* Wats

Shortia Raf. Aut. Bot. 16. 1840

1 *Arabis lyrata* L., l.c. 665

Lyre-leaved rock cress

Cardamine spathulata Michx. Fl. Bor. Am. 2: 29. 1803

In rocky or stony places, sometimes in sandy soil. Locally abundant or common across the northern part of the State outside of the

higher Adirondacks, and from Lake Champlain southward to Putnam county and the southern Catskills, westward to the lake region of central and western New York chiefly on calcareous rock. Rare and local in western New York.

2 *Arabis dentata* T. & G. Fl. N. Am. 1: 80. 1838

Toothed rock cress

Sisymbrium dentatum Torr. in Short, Pl. Kentucky, 3d Suppl. 338. 1834

Shortia dentata Raf. Autik. Bot. 17. 1836

Near Utica, Gray (Torrey, Fl. N. Y. 1: 54. 1843) and reported as rare in western New York.

3 *Arabis glabra* (L.) Bernh. Verz. Syst Erf. 195. 1800

Tower mustard or cress

Turritis glabra L. Sp. Pl. 666. 1753

Arabis perfoliata Lam. Encycl. 1: 219. 1783

T. macrocarpa Nutt. in T. & G., Fl. N. Am. 1: 78. 1838

In fields and rocky places. Occasional or frequent. Usually appearing as a weed and as though introduced. Widely distributed across the State outside of the higher Adirondacks.

Section *Turritis* (Dill.) Gaudin.

Turritis (Dill.) L. Sp. Pl. 666. 1753

4 *Arabis Drummondii* A. Gray, Proc. Am. Acad. 6: 187. 1866

Drummond's rock cress

A. laevigata Hook. Fl. Bor. Am. 1: 43. 1829. Not Poir.

A. confinis S. Wats. Proc. Am. Acad. 32: 466. 1887

T. stricta Graham, Edinb. New Phil. Jour. 350. 1829. Not *Arabis stricta* Huds.

On cliffs and in rocky woods. Northern and western sections of the State. Infrequent.

Dexter and Watertown, Jefferson county, *Wood, Crawe*; Chenango county, *J. S. Douglas*, and near Humaston's, Oneida county, *Paine* (Cat. 61. 1865). Lewiston, Niagara county, *Clinton* (19th Rep't N. Y. State Mus. 204. 1866). Brownville, Jefferson county, *Peck*. Lake Bonaparte, Lewis county; Lansingburg, Rensselaer county, *Peck*. LeRoy, Genesee county and Canandaigua lake, *Hill, Gardner* (Proc. Rochester Acad. 5: 7, 85. 1910-17). Canton, St Lawrence county, *Mrs O. P. Phelps*. Frequent in Tompkins county, *Dudley* (Cayuga Fl. 11. 1886).

5 *Arabis brachycarpa* (T. & G.) Britton, Torr. Club Mem. 5: 174 1894

Purple rock cress

Turritis brachycarpa T. & G. Fl. N. Am. 1: 79. 1838

In sandy or rocky soil. Rare in northern and western New York.

Warrensburg and Port Henry, *Peck*. Fall creek, *F. C. Curtice*.
Burdick's glen, Cayuga county, *Dudley*.

Sect. *Euarabis* Wats. (*Arabis* proper)

6 *Arabis hirsuta* (L.) Scop. Fl. Carn. ed. 2, 2: 30. 1772

Hairy rock cress

Turritis hirsuta L. Sp. Pl. 666. 1753

T. oblongata Raf. Am. Mo. Mag. 2: 44. 1817

A. ovata Poir. in Lam. Encycl. Suppl. 5: 557. 1817

In rocky or sandy places across the State. Infrequent.

Limestone regions of Columbia and Dutchess counties and at Riverdale, *Taylor* (Fl. Vic. N. Y. 347. 1915). Helderberg mountains, *Peck*. Watertown, *Paine*. Brownville, Jefferson county, *Peck*. Oswego, *C. S. Sheldon*. Trenton Falls, *Haberer*, Rocky banks of Genesee river and at Buttermilk falls, *Baxter* (Proc. Rochester Acad. 3: 46. 1896; 5: 86. 1917). Several localities in Tompkins and Cayuga counties, *Dudley* (Cayuga Fl. 10, 1886)

7 *Arabis laevigata* (Muhl.) Poir. in Lam. Encycl. Suppl. 1: 411.
1810 Smooth rock cress

Turritis laevigata Muhl.; Willd. Sp. Pl. 3: 543. 1801

T. lyrata Raf. Am. Mo. Mag. 2: 44. 1817

A. pendula Nutt. Gen. 2: 70. 1818. Not L.

A. hastata Torrey, in Eaton, Man. ed. 2, 141. 1818

In rocky woods. Frequent across the State northward, less common or rare southward to the lower Hudson valley.

8 *Arabis canadensis* L. Sp. Pl. 665. 1753

Sickle pod

A. falcata Michx. Fl. Bor. Am. 2: 31. 1803

A. mollis Raf. Am. Mo. Mag. 2: 43. 1817

In woods and thickets, or open places. Frequent across the State south of the Adirondacks.

CARDAMINE (Tourn.) L. Sp. Pl. 654. 1753

1 *Cardamine pratensis* L., l.c. 656

Cuckoo flower

Native of Europe and adventive or naturalized locally in New York, appearing chiefly in lawns and yards. Distinguished principally by its pink petals.

Var. *palustris* Wimm. & Grab. Fl. Siles. 2¹ 266. 1829

C. pratensis var. *oblongifolia* Peterm. Fl. Lips. 483. 1838

C. palustris Peterm. in Rabenh. Bot. Centralbl. 1: 47. 1846

C. paludosa Knaf, Flora 29: 293. 1846

C. grandiflora Hallier, Bot. Zeit. 24: 209. 1866

Petals white, terminal leaflets of basal leaves usually less distinctly

toothed or entire and the leaflets of the cauline leaves usually with longer stalks.

In wet meadows and swamps. Common northward across the State. Less frequent in the western and southern counties, southward to Dutchess and Delaware counties and reported locally near New York City and on Long Island, the last two which may be the introduced typical species.

- 2 **Cardamine pennsylvanica** Muhl.; Willd. Sp. Pl. 3: 486. 1800
Pennsylvania bitter cress
C. hirsuta Torr. Fl. N. Y. 1: 57. 1843. Not L.

In moist or wet ground, often in swamps or low woods. Frequent or common throughout the State.

- 3 **Cardamine flexuosa** Withering, Arr. Br. Pl. ed. 3, 3: 578. 1796
In wet woods and shaded swamps. Frequent across the State north of the coastal region.

Some authorities regard this as merely a semi-aquatic form of the preceding with fewer, more flabelliform leaflets and spreading pods. In the northern swamps and wet woods, it appears quite distinct, and certainly deserves recognition either as a species or as a variety.

- 4 **Cardamine parviflora** L. Sp. Pl. ed. 2, 914. 1763
Small-flowered bitter cress
C. hirsuta var. *sylvatica* A. Gray, Man. ed. 5, 67. 1867

On dry rocks and in thin soil in rocky places. Infrequent.

Occasional in Bronx and Westchester counties, increasing northward, *Taylor* (Fl. Vic. N. Y. 1915). Edmonds ponds, and Cascadeville, Essex county, *Peck* (34th Rep't N. Y. State Mus. 53. 1881; 44th Rep't 15. 1891, as *C. flexuosa*).

- 5 **Cardamine arenicola** Britton, Torr. Club Bul. 19: 220. 1892
Sand bitter cress
C. virginica Michx. Fl. Bor. Am. 2: 29. 1803. Not L.

In moist or wet sandy soil on Long Island and locally on Staten Island and in Westchester county.

- 6 **Cardamine Douglassii** (Torr.) Britton, Trans. N. Y. Acad. Sci. 9: 8. 1889
Purple cress
Arabis rhomboidea var. *purpurea* Torr. Am. Jour. Sci. 4: 66. 1822.
A. Douglassii Torr.; T. & G. Fl. N. Am. 1: 83, as synonym. 1838
C. purpurea Britton, in B. & B., Illus. Fl. 2: 139. 1897
Dentaria Douglassii Greene, Pittonia 3: 124. 1896

In cold springy places, northern, central and western parts of the State. Infrequent or rare.

Rare and local in the Hudson valley from Westchester county northward (*Taylor*). Common (Proc. Rochester Acad. 3: 46. 1896). Syracuse, *Miss Cobb* (51st Rep't N. Y. State Mus. 277. 1898). Goat Island, Niagara Falls, *C. S. Osborne*. Common in Tompkins county *Dudley* (Cayuga Flora 10, 1886).

7 *Cardamine bulbosa* (Schreb.) B. S. P. Prel. Cat. N. Y. 4. 1888
Bulbous cress

Arabis bulbosa Schreb.; Muhl. Trans. Am. Phil. Soc. 3: 174. 1793

C. rhomboidea DC. Syst. Veg. 2: 246. 1821

A. rhomboidea Pers. Syn. 2: 204. 1805

Dentaria rhomboidea Greene, l.c.

In wet meadows, low woods and thickets. Common northward across the State. Less frequent in the southeastern part of the State and not reported from Long Island.

8 *Cardamine rotundifolia* Michx. Fl. Bor. Am. 2: 30. 1803
Round-leaved or American water cress
Dentaria rotundifolia Greene, l.c.

In cold springs, southwestern part of the State, westward and southward. Rare. Carrollton, *Peck* (45th Rep't N. Y. State Mus. 17. 1893). Collins, Erie county, *Dr. Anne E. Perkins*.

DENTARIA (Tourn.) L. Sp. Pl. 653. 1753

1 *Dentaria laciniata* Muhl.; Willd. Sp. Pl. 3: 479. 1800
Cut leaved toothwort or pepper root

D. concatenata Michx. Fl. Bor. Am. 2: 30. 1803

Cardamine laciniata Wood, Bot. & Flor. 38. 1870

In moist or rich woods, especially in alluvial soil. Frequent or common across the State, but rare or absent from the greater part of the Adirondack region, and infrequent or rare on Long Island.

A form with the leaves strictly ternate, the lateral leaflets entire or slightly toothed but not cleft, is described as *D. laciniata* var. *integra* (Schulz) Fernald, Rhodora 10: 84. 1908. (*Cardamine laciniata* var. *integra* Schulz in Engler's Bot. Jahrb. 32: 349. 1903). It is reported from western New York. Similar if not actually the same as *D. furcata* Small.

D. laciniata x *maxima* Haberer. N. Y. State Mus. Bul. 243-244: 44. 1923. Growing with *D. laciniata* and *D. maxima*. Chittenango Falls, Madison county, *House*. Deerfield, Oneida county, *Haberer*. These plants correspond with the description of *D. incisifolia* Eames (Gray's Man. ed. 7, 434. 1908). The report of *D. heterophylla* Nutt., by Paine (Cat. Pl. Oneida Co. 60. 1865), is probably based

upon this hybrid, since Haberer has collected this hybrid at the locality mentioned by Paine, and typical *D. heterophylla* is not known to occur in central New York.

D. diphylla* x *laciniata House, N. Y. State Mus. Bul. 243-244: 44. 1923. Locally common in several localities. *D. laciniata* blooms several days to 2 weeks earlier than *D. diphylla*, where the two species grow together, but often the blooming of the two species overlaps. The hybrid is intermediate in leaf and root characters, and is quite certainly the *D. anomala* Eames, Rhodora 5: 217. 1903.

2 ***Dentaria diphylla*** Michx. Fl. Bor. Am. 2: 30. 1803
Two-leaved toothwort

Cardamine diphylla Wood, l.c. 37

In rich woods and meadows, especially in alluvial soil. Frequent or common throughout most sections of the State outside of the sandy coastal plain.

D. diphylla* x *maxima Haberer. The rootstocks are slightly constricted but not distinctly articulated; leaves 3-foliate, the cauline leaves 2-3, usually remote, rarely subopposite, more sharply toothed than in *D. diphylla*, otherwise difficult to distinguish from *D. maxima*. Collected by Haberer near Utica. Also occurs near Oneida and Chittenango Falls, Madison county, and doubtless elsewhere, and might easily be mistaken for aberrant forms of *D. diphylla* or *D. maxima*.

3 ***Dentaria maxima*** Nutt. Gen. 2: 66. 1818 Large toothwort
Cardamine maxima Wood, l.c. 38

In low or rich woodlands, uncommon or locally abundant across the State south of the Adirondacks, north of the coastal plain and northward in the St Lawrence basin.

Watertown, *Crawe*; Deerfield and Starch factory creek near Utica, *Paine* (Cat. Pl. Oneida Co. 60. 1865). Angola, Erie county, *Clinton* (22d Rep't N. Y. State Mus. 102. 1869). Oneida, Valley Mills and Chittenango Falls, Madison county, *House*. Near Ithaca, *C. S. Sheldon*. Wilton, Saratoga county, *Mrs O. P. Phelps*.

LUNARIA (Tourn.) L. Sp. Pl. 653. 1753

Lunaria annua L., l.c. Honesty, satin flower
Native of Europe and occasionally escaped from gardens.

ERUCASTRUM Presl, Fl. Sic. 1: 92. 1826

Erucastrum Pollichii Schimp. & Spenn. Fl. Friburg 3: 946. 1829
Sisymbrium Erucastrum Poll. Hist. Pl. Palat. 2: 284. 1777
Sisymbrium gallicum Willd. Enum. Hort. Berol. 678. 1809

Native of Europe. Adventive or naturalized in waste ground. Cornell University campus, Ithaca. *W. C. Muenscher*. (See *Rhodora* 13: 10. 1911).

ERUCA (Tourn.) Mill. Gard. Dict. Abr. ed. 4. 1754

Eruca Eruca (L.) Britton, in B. & B., Illus. Fl. ed. 2, 2: 192.
1913 Garden Rocket

Brassica Eruca L. Sp. Pl. 667. 1753

Eruca sativa Mill. Gard. Dict. ed. 8, No. 1. 1768

In waste ground. A rare or infrequent adventive or escape. Native of Europe.

BRASSICA (Tourn.) L. Sp. Pl. 666. 1753

Section **Leucosinapis**

Sinapis L., l.c. 668

Leucosinapis Spach, Hist. Nat. Veg. 6: 348. 1838

Napus Schimp. & Spenn. Fl. Friburg 3: 939. 1829

1 **Brassica alba** (L.) Rabenh. Fl. Lusit. 1: 184. 1839

White mustard

Sinapis alba L., l.c.

In waste places and fields. A rare or infrequent adventive or escape. Native of Europe and Asia.

2 **Brassica arvensis** (L.) Rabenh., l.c. Charlock, wild mustard

Sinapis arvensis L., l.c.

Brassica Sinapistrum Boiss. Voy. Espag. 2: 39. 1839-45

In fields and waste places. A common weed in most sections of the State. Adventive or naturalized from Europe.

Var. **Schkuhriana** (Reichenb.) Fernald, *Rhodora* 24: 36. 1922

Sinapis Schkuhriana Reichenb. Ic. Fl. Germ. 2: 20. 1837

B. arvensis var. *Schkuhriana* Beck, Fl. Nied.-Ost. 486. 1892

Differs from the typical species by having siliques more strongly tortulose. Occasional or common.

Section **Melanosinapis**

Melanosinapis Schimp. & Spenn., l.c.

Sinapistrum Spach, l.c. 345

3 **Brassica nigra** (L.) Koch, in Roehl, Deutsche Fl. ed. 3, 4: 713.
1833 Black mustard

Sinapis nigra L., l.c. 668.

Sisymbrium niagarensse Fournier, 1865 (Robinson, *Rhodora* 3: 16. 1901)

In fields and waste places. A common weed, naturalized from Europe.

- 4 **Brassica juncea** (L.) Cosson, Bul. Soc. Bot. Franc. 6: 609. 1859 Indian mustard

Sinapis juncea L., l.c. 668

In waste and cultivated ground. A frequent weed, naturalized from Europe. Includes several cultivated forms.

- 5 **Brassica Rapa** L., l.c. Wild turnip

Wild forms of the cultivated turnip are not infrequent as weeds in cultivated or waste ground.

The genus *Brassica* includes a number of cultivated plants, which are occasionally persistent or spontaneous in waste or cultivated ground, but in our latitude are probably rarely long persistent. A classification and description of these species and varieties is found in Bailey's *Cyclopedia of Horticulture* and Bailey's *Gentes Herbarum* 1: 53-108. 1922.

DIPLOTAXIS DC. Syst. 2: 628. 1821

- 1 **Diplotaxis tenuifolia** (L.) DC., l.c. 632 Wall rocket

Sisymbrium tenuifolium L. Cent. Pl. 1: 18. 1755

In waste places and on ballast, chiefly about New York City. Native of Europe.

- 2 **Diplotaxis muralis** (L.) DC., l.c. 634 Sand rocket

Sisymbrium murale L. Sp. Pl. 658. 1753

In waste places and on ballast. Occasional about New York City. Native of Europe.

RAPHANUS (Tourn.) L. Sp. Pl. 669. 1753

- 1 **Raphanus Raphanistrum** L., l.c.

Wild radish, jointed or white charlock, wild rape

In fields and waste places. A frequent weed westward and southward in the State. Infrequent northward. Naturalized from Europe.

2 **Raphanus sativus** L., l.c.

Garden radish

Cultivated and occasionally spontaneous or persistent for a season or two in neglected ground, and rarely in fields or waste places. Native of Asia.

CAKILE (Tourn.) Mill. Gard. Dict. abr. ed. 4. 1754

Cakile edentula (Bigelow) Hook. Fl. Bor. Am. 1: 59. 1830

American sea rocket

Bunias edentula Bigelow, Fl. Bost. 157. 1814

Cakile americana Nutt. Gen. 2: 62. 1818

C. maritima, β ., Torr. & Gray, Fl. N. Am. 1: 119. 1841

In sand along the Atlantic coast, Long Island sound and also on the shores of Lake Ontario and Lake Erie, where it is largely replaced by the variety *lacustris* Fernald (*Rhodora* 24: 23. 1922).

Family 37 **CAPPARIDACEAE** Lindl. Nat. Syst. ed. 2, 61. 1836

Caper family

CLEOME L. Sp. Pl. 671. 1753

Sinapisrum (Tourn.) Moench, Meth. 250. 1794

1 **Cleome serrulata** Pursh, Fl. Am. Sept. 441. 1814

Pink cleome

Peritoma serrulatum DC. Prodr. 1: 327. 1824

C. integrifolia T. & G. Fl. N. Am. 1: 122. 1838

Native of the western states and occasional as a waif about cities and along railroads in the western part of the State.

2 **Cleome spinosa** L. Sp. Pl. ed. 2, 939. 1763

Spider flower

C. pungens Willd. Enum. 689. 1809

Native of tropical and subtropical American and adventive in waste places about New York City, or rarely as an escape from gardens.

PEDICELLARIA Schrank, in Roem. & Usteri, Mag. Bot. 3^s
10. 1790

Gynandropsis DC. Prodr. 1: 237. 1824

Pedicellaria pentaphylla (L.) Schrank, l.c. 11

Cleome pentaphylla L. Sp. Pl. Ed. 2, 938. 1763

Gynandropsis pentaphylla DC, l.c. 238

Native of tropical and subtropical America. Adventive on Staten Island, *Hollick* (*Torrey* 22: 3. 1922).

JACKSONIA Raf. Med. Repos. II. 5: 352. 1808

Polanisia Raf. Jour. Phys. 89: 98. 1819

Jacksonia trifoliata Raf. Med. Repos. II 5: 352. 1808

Clammyweed

Cleome dodecandra var. *canadensis* L. (Cornut. Can. t. 131)

Cleome dodecandra Michx. Fl. Bor. Am. 2: 32. 1803. Not L.

Polanisia graveolens Raf. Jour. Phys. 89: 98. 1819 — Am. Jour. Sci. 1: 379. 1819

Jacksonia dodecandra MacM. Met. Minn. 270. 1893

P. dodecandra B. S. P. Prel. Cat. N. Y. 6. 1888

Sandy and gravelly shores of streams and lakes. Infrequent, but widely distributed across the State and locally common.

A review of the reported stations and herbarium specimens, shows that the plant occurs commonly on the Hudson river from above Troy south to Peekskill and Garrison, at Schenectady, Oneida lake, Seneca, Cayuga and Crooked lakes, Canandaigua lake, shore of Lake Ontario and Lake Erie and formerly, at least, on Long Island.

Family 38 **RESEDACEAE** S. F. Gray, Nat. Arr. Br. Pl. 2: 665. 1821

Mignonette family

RESEDA (Tourn.) L. Sp. Pl. 448. 1753

1 **Reseda luteola** L., l.c. Dyer's rocket, yellow weed

2 **Reseda lutea** L., l.c. 449 Yellow cut-leaved mignonette

3 **Reseda alba** L., l.c. White cut-leaved mignonette

All three of these species of *Reseda* are native of Europe and are occasionally adventive in waste places or ballast, especially about the seaports. *Reseda odorata* L., the garden mignonette, has also been reported as an escape.

Family 39 **SARRACENIACEAE** La.Pyl. Mem. Soc. Linn. Paris 6: 379. 1827

Pitcher plant family

SARRACENIA (Tourn.) L. Sp. Pl. 510. 1753

Sarracenia purpurea L., l.c. Pitcher plant, sidesaddle flower

In sphagnum bogs. Common across the northern part of the State, through the central and western counties. Less common southward and absent from those sections where no sphagnum bogs are found.

Forms with greenish-yellow flowers and no purple veins in the foliage are designated as forma **heterophylla** (Eaton) Fernald. *Rhodora* 24: 174. 1922 (var. *heterophylla* Torrey, Fl. N. Y. 1: 41. 1843 — *S. heterophylla* Eaton, Man. ed. 3, 447. 1822).

Family 40 **DROSERACEAE** S. F. Gray, Nat. Arr. Br. Pl. 2:
664. 1821

Sundew family

DROSERA L. Sp. Pl. 281. 1753

1 *Drosera rotundifolia* L., l.c. Round-leaved sundew

In bogs or on wet sandy or marly soil. Common northward and on Long Island, but less frequent in the Susquehanna region and not reported from the Chemung valley. Frequent westward in the State.

A form with reduced inflorescence in which some or all parts of the flowers are modified to greenish gland-bearing leaves, and which occurs locally in Herkimer, Oneida and Genesee counties, is designated as var. *comosa* Fernald (*Rhodora* 7: 9. 1905).

2 *Drosera intermedia* Hayne, in Schrad. Jour. Bot. 1800¹: 37.
1800 Spatulate-leaved sundew

D. longifolia Michx. Fl. Bor. Am. 1: 186. 1803; Robinson & Fernald; Gray's Man. ed. 7, 441. 1908. Not L.

D. americana Willd. Enum. 340. 1809

D. intermedia var. *americana* DC. Prodr. 1: 318. 1824

In sphagnum bogs, and on marshy or marly shores. Common across the northern part of the State. Less frequent southward to Dutchess, Chenango, Tompkins and Erie counties. Also on Long Island.

The Long Island specimens have relatively shorter leaves than the more northern plants, but otherwise appear to be identical. Some northern specimens approach *D. longifolia* L. (*D. anglica* Huds.) in length of leaf blades, but no typical specimens of *D. anglica* Huds., have been seen from New York.

Fernald describes (*Rhodora* 23: 265. 1922) a hybrid between *D. longifolia* (*D. intermedia*) and *D. rotundifolia*, from Nova Scotia, which should be looked for in northern New York.

3 *Drosera filiformis* Raf. Med. Repos. (II) 5: 360. 1808
Thread-leaved sundew

D. tenuifolia Willd. Enum. 340. 1809

D. filifolia Eaton, Man. ed. 2, 235. 1818

In wet sand near the coast of eastern Long Island. Rare.

Family 41 **PODOSTEMACEAE** Lindl. Nat. Syst. ed. 2, 190.
1836

Riverweed family

PODOSTEMON Michx. Fl. Bor. Am. 2: 164. pl. 44. 1803

Podostemon ceratophyllum Michx., l.c. 165 Riverweed

Firmly attached to stones in shallow water of streams. Rare.

Black river near Watertown, *Gray*, near Newburgh, *Halsted* (Torrey, Fl. N. Y. 2: 171. 1843). Watertown, *Crawe* (Paine, Cat. Pl. Oneida Co. 123. 1865). White lake outlet, Oneida county, *Haberer* (Rhodora 7: 107. 1905).

Family 42 **SEDACEAE** Neck. Act. Ac, Theod. Palat, 2: 487. 1770
(Crassulaceae DC. Fl. Franc. 4: 382. 1805)

Orpine family

TILLAEA (Mich.) L. Sp. Pl. 128. 1753

Section **Bulliarda** (DC.) T. & G.

Hydrophila Ehrh. Beitr. 4: 146. 1789 (nomina usualia)

Bulliarda DC. Bul. Soc. Philom. 3: n. 49: 1. 1801. Not Neck. 1790

Tillaeastrum Britton, Bul. N. Y. Bot. Gard. 3: 1. 1903

Tillaea aquatica L., l.c.

Pigmy weed

T. simplex Nutt. Jour. Acad. Phila. 1: 114. 1817

Bulliarda aquatica DC., l.c. 2

T. ascendens Eaton, Man. ed. 2, 465. 1818

Tillaeastrum aquaticum Britton, l.c.

Hydrophila aquatica House, Am. Mid. Nat. 6: 203. 1920

Muddy banks of streams. Rare. Banks of the Hudson river one or two miles north of Peekskill, *Mead* (Torrey, Fl. N. Y. 1: 252. 1843).

SEDUM (Tourn.) L. Sp. Pl. 430. 1753

Section **Rhodiola** (L.) Schönland

Rhodiola L. Sp. Pl. 1035. 1753

1 **Sedum roseum** (L.) Scop. Fl. Carn. ed. 2, 326. 1772

Roseroot, rosewort

Rhodiola rosea L., l.c.

Sedum Rhodiola DC. Plantae Gras. pl. 143. 1805

In rocky places. A northern and subarctic species, occurring locally in New York, at Chittenango Falls, Madison county (*House*), Seneca lake, (*S. H. Wright*), and the Delaware water gap (See N. Y. State Mus. Bul. 179: 44. 1915).

Section **Telephium** D. Koch

2 **Sedum triphyllum** (Haw.) S. F. Gray, Nat. Arr. Br. Pl. 2: 510
1821 Orpine, live-forever

Anacampteros triphylla Haw. Syn. Pl. Succ. 111. 1812

Sedum Fabaria Koch, Syn. Pl. Germ. 258. 1837

S. purpureum Link, Enum. Hort. Berol. 1: 437. 1821

S. Telephium in Britton & Brown, Illus. Fl. ed. 1, and Gray's Man. Ed. 6, not L.

In fields and along roadsides, often on rocks or banks. Frequent or common in many sections of the State. Naturalized from Europe.

Sedum telephioides Michx. Fl. Bor. Am. 1: 277. 1803, has been reported from western New York by Torrey & Gray (Fl. N. Am. 1: 558. 1840), Torrey (Fl. N. Y. 1: 252. 1843), Paine (Cat. Pl. Oneida Co. 83. 1865) and by Sartwell (58th Rep't Regents, 1845). Paine's Chittenango Falls report proves to be *Sedum roseum*. The specimen collected by Wright (22d Rep't N. Y. State Mus. 102. 1869), is *Sedum roseum*, as is also Sartwell's specimen in the herbarium at Hamilton College. Hall's collection from Seneca lake, if in existence, I have not seen, but I strongly suspect that it also was *Sedum roseum*, and that *Sedum telephioides* does not occur in New York State.

3 **Sedum Sieboldii** Sweet, in Hook, Bot. Mag. t. 5358

Japanese orpine

Native of Asia. Sometimes cultivated and found by Peck as an escape near Shokan.

Section **Seda-genuina** D. Koch

4 **Sedum acre** L. Sp. Pl. 432. 1753

Wallpepper, mossy stonecrop

Native of Europe. Frequent in cultivation and very common in some sections, especially on stony ledges or rocky fields, as an escape, where well established and naturalized. Also often seen along roadsides, in old cemeteries and rarely in woodlands. Especially common west of Watertown and in certain sections of the Hudson valley.

5 **Sedum reflexum** L. Sp. Pl. ed. 2, 618. 1762

Crooked yellow stonecrop, dwarf house leak

Locally escaped from gardens and established in Rensselaer and Wayne counties, and possibly elsewhere. Native of Europe.

6 **Sedum ternatum** Michx. Fl. Bor. Am. 1: 277. 1803

Wild stonecrop

On rocks and rocky banks. Rare or sporadic in southeastern New York, and perhaps not native in this State. Rare as an escape from cultivation farther northward in the State.

7 **Sedum stoloniferum** S. G. Gmel. Reise 3: 311. t. 35, f. 2. 1774

Roadsides near St Huberts, Essex county, *Mrs Felix Adler*. Probably as an escape from cultivation. Native of western Asia.

SEMPERVIVUM L. Sp. Pl. 464. 1753

Sempervivum tectorum L., l.c.

Hen-and-chickens

Often planted and persistent in old yards or neglected grounds. Rare as an escape. Native of Europe.

Family 43 **PENTHORACEAE** Rydb. N. Am. Fl. 22: 75. 1905
Virginia stonecrop family

PENTHORUM L. Sp. Pl. 432. 1753

Penthorum sedoides L., l.c. Ditch or Virginia stonecrop

In ditches, swamps and low wet meadows. Frequent or common throughout most sections of the State except on Long Island, where it is rare, and absent from the pine-barrens. Rare or largely absent from the higher Adirondacks.

Family 44 **PARNASSIACEAE** Dumort. Anal. Fam. 37, 42. 1829
Grass-of-Parnassus family

PARNASSIA (Tourn.) L. Sp. Pl. 273. 1753

Parnassia caroliniana Michx. Fl. Bor. Am. 1: 184. 1803

Carolina grass-of-parnassus

In swamps, low meadows and marly bogs, sometimes on wet or dripping rocks. Locally common from Warren and Rensselaer counties west to St Lawrence county and Lake Erie, southward to Long Island and Staten Island. Not reported from the Adirondacks.

Family 45 **SAXIFRAGACEAE** Desv. Fl. Anjou, 312. 1827
Saxifrage family

SAXIFRAGA (Tourn.) L. Sp. Pl. 398. 1753

Section **Trachyphyllum** Gaud.

Leptasea Haw. Saxifr. Enum. 39. 1821

1 **Saxifraga aizoides** L., Sp. Pl. 403. 1753

Yellow mountain saxifrage

Leptasca aizoides Haw., l.c. 40

On wet rocks. Rare and local.

Annsville (Taberg), Oneida county, on east branch Fish creek, *Kneiskern & Vasey* (Torrey, Fl. N. Y. 2: 516. 1843), and still common there. Along Salmon river, Orwell, Oswego county, *Rowlee* (Torr. Club Bul. 20: 68. 1893). Near Ithaca, *Dudley* (36th Rep't N. Y. State Mus. 38. 1884). Portage, Wyoming county, *Day* (Pl. Buffalo 33).

Section **Boraphila** Engl.

Micranthes Haw. Syn. Pl. Succ. 320. 1812

2 *Saxifraga virginicensis* Michx. Fl. Bor. Am. 1: 260. 1803

Early saxifrage

Micranthes virginensis Small, Fl. SE. U. S. 501. 1903

In dry or rocky woodlands and on exposed rocks and ledges. Common. A form with 15 stamens, described as forma **pentadecandra** (Sterns) Fernald, has been found on New York Island.

3 *Saxifraga pennsylvanica* L. Sp. Pl. 399. 1753

Swamp saxifrage

Micranthes pennsylvanica Haw. Saxifr. Enum. 45. 1821

In swamps and low meadows. Frequent or common across the State outside of the higher Adirondacks, and absent from the pine-barrens of Long Island.

Forma **fulvior** Fernald, Rhodora 19: 114. 1917, with the lower bracts dilated and foliaceous; Pike, Wyoming county, *Peck*.

Saxifraga purpuripetala Johnson, Minn. Biol. Stud. 4: 51. 1919, described from Vermont and New Jersey, is said to differ from *S. pennsylvanica*, chiefly by its purple petals. Until better known its status must be considered as doubtful.

Section **Euaizoonia** Schott

Chondrosea Haw. Saxifr. Enum. 10. 1821

4 *Saxifraga Aizoon* Jacq. Fl. Austr. 5: 18. pl. 438. 1778

Chondrosea Aizoon Haw., l.c.

Cliffs of the southeastern side of Wallface mountain, above the southern end of Indian Pass, *House* 9438, July 2, 1923.

TIARELLA L. Sp. Pl. 405. 1753

Tiarella cordifolia L., l.c.

False miterwort, coolwort

In rich woods, usually in moist soil. Common or frequent in most sections of the State, north of New York City. Rare in the Susquehanna valley.

HEUCHERA L. Sp. Pl. 226. 1753

Heuchera americana L., l.c.

Alum root

In dry or rocky woods and on banks, chiefly in the southeastern part of the State. Rare northward to Garrison and Matteawan.

Var. **glauca** (Raf.) Rosendahl, Engler, Bot. Jahrb. 37. Biebl. 83: 79. 1905 (*Heuchera glauca* Raf. Med. Fl. 1: 244. 1825; *H. Curtisii* T. & G.; Gray in Am. Jour. Sci. 42: 15. 1841), with leaves glabrous or nearly so, and usually glaucous, is reported as rare in the southeastern part of the State. It is sometimes recognized as a distinct species.

MITELLA (Tourn.) L. Sp. Pl. 406. 1753

1 **Mitella diphylla** L. Sp. Pl. 406. 1753

Two-leaved bishop's cap or miterwort

In rich woods. Common northward and westward in the State. Less frequent southward to Bronx county and reported from Staten Island. Not known on Long Island.

Mitella oppositifolia Rydb. N. Am. Fl. 22: 91. 1905, differs by having the stem leaves petioled; sepals lanceolate and divisions of the petals filiform. It is reported from Central New York, and may be an aberrant form of the preceding.

Mitella prostrata Michx. Fl. Bor. Am. 1: 270. 1803. Originally collected near Lake Champlain, has not been collected since. The original specimen is preserved in the Museum d' Historie Naturelle in Paris, and is described by Fernald (*Rhodora* 8: 90-92. 1906).

2 **Mitella nuda** L. Sp. Pl. 408. 1753

Naked bishop's cap or miterwort

M. reniformis Lam. Encycl. 4: 196. 1796

In cold woods and bogs, most frequent in arbor vitae, spruce and balsam swamps. Common in the northern part of the State. Infrequent in the western counties and not found south of Greene county in the east. Westward frequent in the cold swamps on the higher hills of Otsego, Herkimer, Madison, Cortland and Tompkins counties.

CHRYOSPLENIUM (Tourn.) L. Sp. Pl. 398. 1753

Chrysosplenium americanum Schw.; Hook Fl. Bor. Am. 1: 242. 1832

Golden saxifrage, water carpet

C. oppositifolium Walt. Fl. Car. 140. 1788. Not L.

In wet shaded places and in springs. Frequent or common across the State northward. Less frequent southward to Long Island, north of the moraine.

Family 46 **HYDRANGEACEAE** Dumort. Anal. Fam. 36, 38. 1829

Hydrangea family

HYDRANGEA (Gronov.) L. Sp. Pl. 397. 1753

Hydrangea arborescens L., l.c.

Wild hydrangea

On rocky stream or river banks, southwestern part of the State from Chemung and Tioga counties westward.

Var. **oblonga** T. & G. Fl. N. Am. 1: 591. 1840 (*H. cinerea* Small, Torr. Club. Bul. 25: 148. 1898, in part), reported from

Painted Post, Steuben county, *Miss I. S. Arnold*; Forma **sterilis** (T. & G.) St John (Rhodora **23**: 208. 1922; var. *sterilis* T. & G., l.c) in which the flowers are all sterile and radiate, is often seen in cultivation.

PHILADELPHUS L. Sp. Pl. 470. 1753

Philadelphus coronarius L., l.c. Garden syringa, mock orange

Native of central Europe. Common in cultivation and sparingly escaped or long persistent in some localities.

Family 47 **HAMAMELIDACEAE** Lindl. Veg. Kingd. 784. 1847

Witch hazel family

HAMAMELIS L. Sp. Pl. 124. 1753

Hamamelis virginiana L., l.c. Witch hazel

In low woods and thickets or in swamps. Frequent or common throughout most sections of the State, and rare only in some of the northern sections and the higher portions of the Adirondacks.

Var. **parvifolia** (Nutt.) T. & G. Fl. Am. **1**: 597. 1840. Leaves usually smaller and thicker, densely stellate-hirsute and usually rufescent beneath. Of doubtful varietal rank, but represents a form not uncommon in the southern and southeastern portions of the State.

Family 48 **ALTINGIACEAE** Hayne, Flora **1**: 172. 1830

Altingia family

LIQUIDAMBAR L. Sp. Pl. 999. 1753

Liquidambar styraciflua L., l.c. Sweet gum, star-leaf, red gum

In low woods. Common on Long Island and Staten Island and northward on the mainland to the southern edge of the Hudson highlands. Chatham, Columbia county, *Eaton* (Man. ed. 2, 304. 1818).

Family 49 **GROSSULARIACEAE** Dumort. Anal. Fam. 37. 1829

Gooseberry family

RIBES L. Sp. Pl. 201. 1753

Subgenus **Ribesium** (Medic.)

Ribesium Medic. Phil. Bot. **1**: 120. 1789

Botrycarpum A. Rich. Bot. Med. **2**: 487. 1823

Coreosma Spach, Ann. Sc. Nat. II. **4**: 2. 1835

Chrysobotrya Spach, l.c. 18

- 1 **Ribes lacustre** (Pers.) Poir. in Lam. Encycl. Suppl. 2: 856. 1811
Swamp black currant

R. oxyacanthoides var. *lacustre* Pers. Syn. 1: 252. 1805

R. grossularioides Michx.; Steud. Nom. Bot. 691. 1821

In swamps and wet woods. Common northward across the State. Less frequent southward to the Catskill mountains, the upland swamps of Chenango, Otsego and Tompkins counties. Not reported from the western counties of the State, nor from the southern Susquehanna and Chemung valleys.

- 2 **Ribes nigrum** L. Sp. Pl. 201. 1753 Garden black currant

Ribes nigrum Medic., l.c.

Botrycarpum nigrum A. Rich., l.c.

Frequent in cultivation and occasionally escaped from gardens or long persistent in neglected grounds. Native of Europe.

- 3 **Ribes vulgare** Lam. Encycl. 3: 47. 1789 Red garden currant

R. rubrum of American Reports, not L.

Common in cultivation and occasionally established as an escape. Native of Europe.

- 4 **Ribes triste** Pall. Nova Acta Acad. Petrop. 10: 378. 1797
American wild red currant

A. rubrum A. Gray, Man. 143. 1848. Not L.

In wet woods, bogs, or in open marshy places. A species extending across the north of the North American continent and northern Asia. The typical form of the species apparently not found in this State yet, but represented by:

Var. **albinervium** (Michx.) Fernald, Rhodora 7: 4. 1907

R. albinervium Michx. Fl. Bor. Am. 1: 110. 1803

R. rubrum albinervium MacM. Metasp. Minn. Valley 279. 1892

Frequent or locally common across the northern part of the State. Less frequent southward and westward to Greene, Otsego, Tompkins and Genesee counties.

The leaves are glabrous or sparingly pubescent beneath when young, while the typical form of the species has leaves permanently white-tomentose beneath.

- 5 **Ribes glandulosum** Grauer, Pl. Min. Cog. 2. 1784
Fetid or skunk currant

R. prostratum L'Her. Stirp. Nov. 3: pl. 2. 1785

R. ringens Michx. l.c. 110

R. trifidum Michx., l.c.

In cold wet woods and swamps, often in balsam or spruce swamps. Common in the northern and central parts of the State. Less frequent southward to Dutchess county, the Catskill mountains, Chenango and Chemung counties and westward to Lake Erie and Chautauqua county.

6 *Ribes americanum* Mill. Gard. Dict. ed. 8, *Ribes* No. 4. 1768

Wild black currant

Ribes Dillenii Medic. Beobacht. 1782: 396. 1783

R. floridum L'Her. Stirp. Nov. 4. 1785

R. pennsylvanicum Lam. Encycl. 3: 49. 1789

R. nigrum pennsylvanicum Marsh. Arb. Am. 132. 1785

R. recurvum Michx. Fl. Bor. Am. 1: 110. 1803

Corcosma florida Spach, Ic. 22

In woods and thickets, sometimes in low or swampy places. Ascending nearly to the summit of Mount McIntyre according to Peck, and common across the State. Less frequent southward to Long Island.

7 *Ribes odoratum* Wendl. in Bartl. & Wendl. Beitr. 2: 15. 1825

Golden, Buffalo or Missouri currant

Chrysobotrya revoluta Spach, Ic. 19

Native of the western states and common in cultivation. Long persistent in neglected grounds, and rarely escaped or established by roadsides, rocky fields, etc.

Subgenus *Grossularia* (Tourn.)

Grossularia (Tourn.) Mill. Gard. Dict. abr. ed. 4. 1754

8 *Ribes Cynosbati* L. Sp. Pl. 202. 1753

Wild gooseberry, dogberry

G. Cynosbati Mill. Gard. Dict. ed. 8, No. 5. 1768

R. gracile Torr. Fl. U. S. 1: 269. 1824.

In rocky woods. Frequent across the State northward and westward. Southward to the Catskill mountains, the Hudson highlands and Delaware county. Locally on the northern part of Long Island and rare on Staten Island.

9 *Ribes hirtellum* Michx. Fl. Bor. Am. 1: III. 1803

Northern or smooth gooseberry

R. oxycanthoides, of N. Y. Reports. Not L.

R. huronense Rydberg; Britton Man. 487. 1901

In moist or wet woods and low grounds. Common northward across the State especially in the Adirondacks. Rare or local southward to Rockland county (*Austin*), Orange county (*Peck*), and westward to Lake Erie.

Var. **saxosum** (Hook.) Fernald, *Rhodora* 13: 76. 1911 (*R. saxosum* Hook. Fl. Bor. Am. 1: 231. 1834), with calyx and subcordate leaves essentially glabrous; bracts of the raceme glandless, though often pilose-margined. Reported from north and east of this state and to be looked for in northern New York.

10 **Ribes reclinatum** L., l.c. 201 Garden gooseberry

G. reclinata Mill., l.c. No. 1

R. Grossularia & *R. Uva-crispa* L., l.c.

Along roadsides and in neglected grounds. Escaped from gardens or persistent and spreading. Native of Europe.

11 **Ribes rotundifolium** Michx. Fl. Bor. Am. 1: 110. 1803 Eastern wild gooseberry

G. rotundifolia Coville & Britton, in N. Am. Fl. 22: 223. 1908

R. triflorum Willd. Hort. Berol. pl. 61. 1806

R. gracile Pursh, Fl. Am. Sept. 165. 1814. Not Michx.

In rocky woods. Infrequent or locally abundant in the lower Hudson valley and the Catskill mountains. Reported from Long Island and Staten Island, and northward to the western side of Lake Champlain, the southern Adirondacks and westward across the State.

According to Gray's Manual ed. 7, 1908, *Ribes gracile* Michx. is the same as *R. missouriensis* Nutt., and the species is reported eastward to Connecticut. In the N. Am. Flora, *Ribes gracile* Michx. is referred to *R. Cynosbati*, while *R. gracile* Pursh is referred to *R. missouriensis*, the range of which is not given as eastward to New York. The writer has seen no authentic specimens of *R. missouriensis* from New York.

Family 50 **PLATANACEAE** Lindl. Nat. Syst. ed. 2, 187. 1836

Plane tree family

PLATANUS (Tourn.) L. Sp. Pl. 999. 1753

Platanus occidentalis L., l.c.

Buttonwood, buttonball, plane tree, sycamore

Along streams, lakes and ponds and in wet woods. Common from Lake Champlain and the Lake George region westward to the St Lawrence, outside of the higher Adirondacks, to about 1,000 feet altitude. Increasingly abundant southward and westward in the State, especially along streams, except in the pine-barrens of Long Island and on Staten Island, where it is rare or locally absent.

Family 51 **SPIRAEACEAE** Loiseleur-Delongchamps, Man. Pl.

Indig. 1: 188. 1818

OPULASTER Medic. Pfl. Anat. 2: 109. 1799

Physocarpa Raf. New Fl. 3: 73. 1836

1 *Opulaster opulifolius* (L.) Kuntze, Rev. Gen. Pl. 949. 1891

Ninebark

Spiraea opulifolia L. Sp. Pl. 489. 1753

Neillia opulifolia Brew. & Wats. Bot. Calif. 1: 171. 1876 (as to synonymy only)

Physocarpa opulifolia Raf., l.c.

On river banks, rocky woods and moist thickets. Locally frequent from Rensselaer county westward to St Lawrence county, southward in the Appalachian region.

Common and undoubtedly native along the Hudson river southward to the Hudson highlands, and in the lake region from Onondaga county to Ontario county and southward. Not reported from the higher Catskills nor as a native from south of the Hudson highlands. In western New York regarded as an escape (Proc. Rochester Acad. 3: 60. 1896). The plants reported by Day (Pl. Buffalo 30. 1883), I have not seen and they may belong to the next species.

2 *Opulaster intermedius* Rydb.; Britton, Man. 492. 1901

Prairie ninebark

Physocarpus opulifolius var. *intermedius* Robinson, Rhodora 10: 32. 1908

Riverbanks and rocky woodlands, in western New York, according to Rydberg.

SPIRAEA (Tourn.) L. Sp. Pl. 489. 1753

1 *Spiraea latifolia* (Ait.) Borkh. Handb. Forstbot. 1871. 1803

Meadow sweet, quaker lady.

S. salicifolia latifolia Ait. Hort. Kew. 2: 198. 1789

S. media Pursh, Fl. Am. Sept. 342. 1814

S. obovata Raf. Am. Mo. Mag. 2: 206. 1818

S. salicifolia Torrey, Fl. N. Y. 1: 198, in part. 1843. Not L.

In moist or rocky ground. Frequent or locally common throughout most sections of the State. Ascends to near summit of McIntyre and Wallace in the Adirondacks, where it is dwarfed and leaves broader (obovate) and coarsely toothed. Varies with flowers, pink or rosy in color.

2 *Spiraea salicifolia* L. Sp. Pl. 489. 1753

Occasional in cultivation. Native of Asia, and reported by Britton & Brown (Illus. Fl. ed. 2, 2: 245. 1913), as an escape along roadsides. Also reported by Taylor (Fl. Vic. N. Y. 1915).

3 *Spiraea alba* DuRoi, Harbk. Baumz. 2: 430. 1772

Narrow-leaved meadow sweet

S. paniculata Willd. Sp. Pl. 2: 1055. 1799

S. salicifolia var. *lanceolata* T. & G. Fl. N. Am. 1: 415. 1840

S. salicifolia of N. Y. reports in part. Not L.

In wet soil and in swamps and bogs. Uncommon but widely distributed across the State north of the coastal plain region.

4 *Spiraea tomentosa* L. Sp. Pl. 489. 1753

Hardhack, steeple bush

In swamps and low ground. Frequent across the State northward, and in the Adirondacks up to 2,000 feet altitude. Common in central New York, the Ontario lowlands, and on Long Island and Staten Island. Less frequent or rare in the western New York highlands.

Forma *albiflora* (Raf.) Macbride, Rhodora 17: 143. 1915 (*S. tomentosa* var. *albiflora* Raf. Med. Bot. 2: 92. 1830), with white flowers, occurs in several localities in Saratoga and Rensselaer counties, and doubtless elsewhere.

5 *Spiraea japonica* L.f., Suppl. 262. 1781 Japanese spiraea

Cultivated and reported as an occasional escape from gardens. Native of eastern Asia.

6 *Spiraea chamaedrifolia* L. Sp. Pl. 489. 1753

Germander-leaved spiraea

Native of Asia and reported as a rare escape from cultivation to roadsides.

ARUNCUS (L.) Adans. Fam. Pl. 2: 295. 1763

Aruncus Aruncus (L.) Karst. Deutsch. Fl. 779. 1880-83

Goat's-beard

Spiraea Aruncus L. Sp. Pl. 490. 1753

Aruncus sylvestris Kostel. Ind. Hort. Prag. 15. 1844

S. Aruncus var. *americana* Torr. Fl. N. & Mid. U. S. 1: 482. 1824

In rich woods from Pennsylvania southward and westward. Reported from the Catskill mountains, Eaton (Torrey, Fl. N. Y. 1: 200. 1843), but not since collected there.

SCHIZONOTUS Lindl. Introd. Nat. Syst. 81. 1830

Basilima Raf. New. Fl. 3: 75. 1836

Schizonotus sorbifolius (L.) Lindl.; Steud. Nomencl. ed. 2, 2: 531.

1841

Sorb-leaved schizonotus

Spiraea sorbifolia L. Sp. Pl. 490. 1753

Sorbaria sorbifolia A. Br.; Aschers. Fl. Brand. 177. 1864

B. sorbifolia Raf., l.c.

Frequent in cultivation and locally escaped or persistent in some localities. Native of Europe.

Fulton, Oswego county, *W. W. Rowlee*. Penfield, Monroe county, *Dunbar*. Albany, *House*. Massena, St Lawrence county, *Mrs O. P. Phelps*.

PORTERANTHUS Britton, Torr. Club Mem. 4: 115. 1894
Gillenia Moench, Meth. Suppl. 286. 1802. Not *Gillenia* Adans. 1763

1 **Porteranthus trifolius** (L.) Britton, l.c.

Indian physic, Bowman's root, false ipecac

Spiraea trifoliata L. Sp. Pl. 490. 1753

Gillenia trifoliata Moench., l.c.

In woods and thickets. Oneida county south to Broome county and westward. Rare in the eastern part of its range.

Bridgewater, Oneida county, *Gray*. Waterville, Oneida county, *Miss J. E. Johnson*; sides of Oriskany valley from Clinton, southward; banks of Seneca lake, *Vasey* (Paine, Cat. Pl. Oneida Co. 76. 1865). Not uncommon in Broome county, *Millsbaugh* (Torr. Club Bul. 12: 101. 1885). Elmira, *Lucy*.

2 **Porteranthus stipulatus** (Muhl.) Britton, l.c.

American ipecac

Spiraea stipulata Muhl.; Willd. Enum. 542. 1809

Gillenia stipulacea Nutt. Gen. 1: 307. 1818

G. stipulata Trelease, in Branner & Coville, Ann. Rep. Geol. Surv. Arkans. 4: 179. 1891

Moist rich woods, Broome county and western New York westward and southward. Infrequent.

Moist rich woods, western New York, *David Thomas*, *Doctor Clever* (Torrey, Fl. N. Y. 1: 201. 1843). Binghamton, *Clute* (Fl. Upper Susquehanna 33. 1898, note under *trifolius*).

FILIPENDULA (Tourn.) Mill. Gard. Dict. abr. ed. 4. 1754
Ulmaria Mill., l.c.—Hill, Hort. Kew. 213. 1768

1 **Filipendula rubra** (Hill) Robinson, *Rhodora* 8: 204. 1906

Queen of the prairie

Ulmaria rubra Hill, l.c. 214. pl. 7.

Spiraea lobata Gronov.; Jacq. Hort. Vind. 1: 38. pl. 88. 1770

S. rubra Britton, Torr. Club Bul. 18: 270. 1891

Native from Pennsylvania westward and southward. Frequent in cultivation and escaped to roadsides and neglected grounds, northward to Cleveland, Oswego county, *House*, and Aiden Lair, Essex county, *Peck*. Doubtless elsewhere in the State.

2 **Filipendula Ulmaria** (L.) Maxim. Act. Hort. Petrop. 6: 25.
 1879 European meadow sweet

Spiraea Ulmaria L. Sp. Pl. 490. 1753

Frequent in cultivation and occasional as an escape.

Filapendula filapendula (L.) Voss (*F. vulgaris* Moench), is also reported as a rare escape in the eastern states.

Family 52 **ROSACEAE** B. Juss. Hort. Train. 1759

Rose family

POTENTILLA L. Sp. Pl. 495. 1753

Subgenus **Eupotentilla** T. & G.

Tormentilla L., l.c. 500

Quinquifolium (Tourn.) Adans. Fam. Pl. 2: 295. 1763

Pentaphyllum Gaertn. Frust. 1: 349. 1788

Tridophyllum Neck. Elem. 2: 93. 1790

Callionia Greene, Leaflets 1: 238. 1906

1 **Potentilla simplex** Michx. Fl. Bor. Am. 1: 303. 1803

Decumbent five-finger

P. canadensis var. *simplex* T. & G. Fl. N. Am. 1: 443. 1840

Callionia simplex Greene, l.c.

Open grassy woods and shaded places. Infrequent or locally common across the State outside of the Adirondacks.

2 **Potentilla pumila** Poir. in Lam. Encycl. 5: 594. 1804

Dwarf five-finger

P. canadensis var. *pumila* T. & G., l.c.

P. canadensis Michx., l.c. Not L.

Callionia pumila Greene, l.c.

In dry soil, usually in sandy or sterile fields and open woods. Frequent in Saratoga and Albany counties, about Oneida lake and the Ontario lowlands, Tioga county and westward to Lake Erie. Common near the Atlantic coast and on Long Island and Staten Island.

3 **Potentilla canadensis** L. Sp. Pl. 498. 1753

Common five-finger or cinquefoil

P. sarmentosa Muhl.; Willd. Enum. 554. 1809

Callionia canadensis Greene, l.c.

In fields, meadows and dry soil, sometimes in open woods. Common throughout the State except in densely wooded sections.

4 **Potentilla paradoxa** Nutt.; T. & G. Fl. N. Am. 1: 437. 1840

Bushy cinquefoil

P. supina Michx. Fl. Bor. Am. 1: 304. 1803. Not L., 1753

Tridophyllum paradoxum Greene, Leaflets 1: 189. 1905

Shore of Lake Ontario from Cayuga county westward. Rare. Reported as a waif near New York City (Taylor).

Fairhaven, *C. S. Sheldon*. Sodus Bay, *Hankenson*. Irondequoit bay, Monroe county, *Fish* (Proc. Rochester Acad. 3: 61. 1896). Outlet of Braddocks bay, Monroe county, *Paine* (Cat. Pl. Oneida Co. 186. 1865; *Britton*, Torr. Club Bul. 21: 31. 1894; *Killip & Woodams*, Proc. Roch. Acad. Roch. Acad. 5: 88. 1917). Adventive at East Buffalo, *Corwell* (Bul. Buffalo Nat. Field Club 1: 86. 1883).

5 *Potentilla monspeliensis* L. Sp. Pl. 499. 1753

Rough cinquefoil

P. trifoliata Gilib. Exerc. phytot. 361. 1792

P. dichotoma Moench, Meth. 659. 1794

Tridophyllum monspeliense Greene, l.c.

P. hirsuta Michx. Fl. Bor. Am. 1: 302. 1803

In moist or dry soil, often in meadows, fields or in waste places, as though adventive. Common or frequent throughout the State except in densely wooded sections, into which it appears to migrate with the clearing of the forests.

The typical European form is var. *norvegica* (L.) Rydb. Mem. Dep't. Bot. Columbia Univ. 2: 46. 1898 (*P. norvegica* L., l.c.), which differs slightly from the indigenous American form, and is regarded both as distinct species and as a variety by various authorities. It is common in this State as an introduced plant.

6 *Potentilla argentea* L. Sp. Pl. 497. 1753

Silvery cinquefoil

P. argyrops Raf. Aut. Bot. 165. 1840

Hypargyrium argenteum Fourr. Ann. Soc. Linn. Lyon II. 16: 371. 1868

In dry soil, often in sandy places or on rocky ledges. Frequent or common northward and westward in the State and southward to the lower Hudson valley, and locally on Long Island where perhaps adventive.

7 *Potentilla intermedia* L. Mant. 76. 1767 Downy cinquefoil

Native of the mountainous regions of Europe and rare as an introduced or adventive plant in this State.

Flushing, Long Island, *Hulst* (Torreya 2: 51. 1902). Port Henry on Lake Champlain, *E. P. Killip*.

8 *Potentilla inclinata* Vill. Hist. Pl. Dauph. 3: 567. pl. 45. 1789

P. canescens Besser, Prim. Fl. Gal. 1: 330. 1809

P. pilosa Macoun, Cat. Can. Pl. 1: 139. 1883. Not Vill. 1889

Native of Europe and reported as established at Buffalo.

9 *Potentilla recta* L. Sp. Pl. 497. 1753

Rough-fruited cinquefoil

P. obscura Willd. Sp. Pl. 2: 1100. 1800

P. corymbosa Moench, Meth. Suppl. 279. 1802

Hypargyrium rectum Fourr., l.c. 372

In waste places, fields and roadsides. Reported from Wading River, Long Island, by E. S. Miller in 1874, and now established in several localities.

Var. **sulphurea** (Lam.) comb. nov. Yellow cinquefoil

P. sulphurea Lam. Fl. Fr. 3: 114. 1778

P. recta Willd., l.c. 1099. Not. L. 1753

P. pallida Lag.; Besser, Enum. Pl. Volh. 69. 1822

In fields, along roadsides and in waste places. Native of Europe and established as a locally common plant in several localities across the State. Apparently increasing rapidly in abundance and distribution within recent years, being first reported from near Oswego in 1879 by Rev. J. H. Wibbe.

Rydberg (N. Am. Flora 22: 309-310. 1908) maintains *P. recta* L., and *P. sulphurea* Lam., as separate species. The chief distinction given is that *P. recta* has "petals deep-yellow, only slightly longer than the sepals," while *P. sulphurea* is said to have "petals sulfur-yellow, half longer than the sepals." practically all of the New York State collections from more than 15 localities throughout the State belong to *P. sulphurea*, as here distinguished, while Miller's Long Island collection is the only one of *P. recta*. The differences between the two seem too slight for maintaining them as distinct species.

Subgenus **Argentina** (Hill)

Argentina Hill, Brit. Herb. 1756; Lam. Fl. Fr. 3: 118. 1779

Dactylophyllum Spenn. Fl. Frib. 1084, in part. 1829

Potentilla, Sect. *Anserina* T. & G. Fl. N. Am. 1: 444. 1840

10 *Potentilla anserina* L. Sp. Pl. 495. 1753

Silverweed, wild or goose tansy

P. argentina Huds. Fl. Angl. 195. 1762

Argentina vulgaris Lam., l.c. 119

P. anserina var. *vulgaris* Hayne, Arzneigew 4: 31. 1816

Argentina anserina Rydb. Mem. Dept. Botany Columbia Univ. 2: 159. 1898

On shores and in marshes. Locally common from Lake Champlain to the St Lawrence river and Lake Ontario, outside of the higher Adirondacks, southward to Long Island and westward to Lake Erie. Not recorded from the Catskills or the Susquehanna region.

Var. **sericea** Hayne, l.c.

P. anserina var. *concolor* Wallr. Sched. Crit. 1: 236. 1822

Argentina argentea Rydb. Torr. Club Bul. 33: 143. 1906; N. Am. Fl. 22: 353. 1908

In marshes, on shores, etc., along the eastern end of Lake Ontario and probably elsewhere in the St Lawrence basin. Woodville, Jefferson county, House.

Argentina Babcockiana Rydb. N. Am. Fl. 22: 354. 1908. The type of this is from Westminster Park, Jefferson county. Said by Rydberg to occur also at Oneida lake. Several collections from Oneida lake agree with the description of this species, but possess grooved or sulcate akenes, which relates them to *A. anserina*.

11 **Potentilla pacifica** Howell, Fl. N. W. Am. 1: 179. 1898

Large-flowered silverweed

P. anserina var. *grandis* T. & G. Fl. N. Am. 1: 444. 1838

P. anserina var. *groenlandica* T. & G., l.c.

A. anserina grandis Rydb. Mem. Dept. Bot. Columbia Univ. 2: 161. 1898

A. litoralis Rydb. N. Am. Fl. 22: 354. 1908

Reported from the eastern end of Long Island. One sheet in the old cabinet collection of the state herbarium, without definite locality or date, exhibits exactly the characters described for this species, and may have been collected on Long Island. The rachis of the leaves is quite glabrous.

Subgenus **Dasiphora** (Raf.)

Dasiphora Raf. Aut. Bot. 167. 1838

Potentilla, Sect. *Comocarpa* T. & G., l.c. 445

Sibbaldiopsis Rydb. Mem. Dept. Bot. Columbia Univ. 2: 187. 1898

12 **Potentilla fruticosa** L. Sp. Pl. 495. 1753

Shrubby cinquefoil

Dasiphora riparia Raf., l.c.

Potentilla floribunda Pursh, Fl. Am. Sept. 355. 1814

Dasiphora fruticosa Rydb., l.c. 188

In swamps or moist rocky places. Common northward across the State, and locally southward, chiefly in swamps or bogs, to Dutchess, Columbia, Westchester and Orange counties, westward to Lake Erie. Rare in the Susquehanna region, but rather common in the Ontario lowlands.

New York specimens have chiefly oblong-lanceolate leaflets and flowers 1.5–2 cm broad; the petals 6–8 mm long and often equalled or sometimes exceeded by the sepals and bracts.

13 **Potentilla tridentata** Soland. in Ait. Hort. Kew. 2: 215. t. b. 1789

Three-toothed cinquefoil

P. retusa O. F. Mueller, Fl. Dan. 5¹⁴: 4. t. 799. 1780

Sibbaldiopsis tridentata Rydb., l.c. 187

In rocky places, especially on mountain summits and on exposed ridges and ledges. Frequent or common throughout the Adirondacks and northern New York, and in the Catskill mountains. Less frequent southward to Dutchess county and the Hudson highlands. Not reported from western New York.

P. retusa of Mueller has usually been referred to this species with some question, because the plate represents the petals as retuse

or emarginate at the apex. However it does not seem that the plate can refer to any other known species, and faulty delineation of the petals may have been due to carelessness, or the drawing may have been made from specimens with wilted or dried petals in which an appearance of retuse petals might have occurred.

Subgenus *Drymocallis* (Fourr.)

Potentilla, Sect. *Closterostyles* T. & G., l.c. 445
Bootia Bigelow, Fl. Bost. ed. 2, 206. 1826. Not Adans. 1763
Drymocallis Fourr. Ann. Soc. Linn. Lyon. II. 16: 371. 1868

14 *Potentilla arguta* Pursh, Fl. Am. Sept. 736. 1814

Tall or glandular cinquefoil

Geum agrimonioides Pursh, Fl. Am. Sept. 351. 1814
Potentilla arguta Pursh, l.c. 736
Bootia sylvestris Bigel., l.c.
P. confertiflora Torr. Fl. N. & Mid. U. S. 1: 449. 1824
Drymocallis agrimonioides Rydb. N. Am. Fl. 22: 368. 1908
P. agrimonioides Farwell, Asa Gray Bul. 3: 7. 1895. Not. Bieb. 1808

In rocky, gravelly or alluvial soil, often on dry or exposed rocky hills and ledges. Shores of Lake Champlain south to Long Island, but not reported from the Catskills or from the Mohawk valley, and rare in the Susquehanna region. Local throughout the St Lawrence basin in St Lawrence, Lewis and Jefferson counties, near Oneida lake and reported from the limestone region of LeRoy, Genesee county, *E. J. Hill* (Proc. Rochester Acad. 5: 12. 1910).

COMARUM L. Sp. Pl. 502. 1753

Comarum palustre L., l.c. Purple or marsh cinquefoil, purplewort

Potentilla palustris Scop. Fl. Carn. ed. 2, 1: 359. 1772
P. Comarum Nestler, Mon. Potent. 36. 1814
C. digitatum Raf. Fl. Tellur. 2: 55. 1837
C. angustifolium Raf., l.c. 56

In swamps and bogs. Common in the Adirondacks and central and northern New York. Less frequent southward to Dutchess and Delaware counties and westward to Lake Erie. Not reported from the Catskills.

Var. *villosa* (Pers.) Lehm. Stirp. Pug. 9: 44. 1851 (*C. palustre* var. *villosum* Pers. Syn. 2: 58. 1807. *C. tomentosum* Raf. Aut. Bot. 170. 1840), with the leaves densely velvety on both sides, occurs in northern and western New York.

DUCHESNIA J. E. Smith, Trans. Linn. Soc. 10: 372. 1811

Duchesnia indica (Andr.) Focke, in Engl. & Prantl, Nat. Pfl. Fam. 3^a: 33. 1888

Mock or Indian strawberry

Fragaria indica Andr. Bot. Rep. pl. 479. 1807

In waste places. Infrequent or rare on western Long Island, Staten Island and at Syracuse. Naturalized or adventive from India.

FRAGARIA (Tourn.) L. Sp. Pl. 494. 1753

1 **Fragaria vesca** L., l.c.

European wood or hedge strawberry

F. vulgaris Ehrh. Beitr. 7: 21. 1792

In woods, fields and along roadsides. Frequent in cultivation and locally common as an escape or naturalized plant in many parts of the State.

Origin of the "Alpine and perpetual strawberries," and perhaps native northward. A form with white fruit, forma *albicarpa* Britton (Torr. Club Bul. 6: 323. 1879; var. *alba* (Ehrh.) Rydb. Mem. Dept. Bot. Columbia Univ. 2: 174. 1898), occurs locally and may be native.

2 **Fragaria americana** (Porter) Britton, Torr. Club Bul. 19: 222. 1892

American wood strawberry

F. vesca β. T. & G. Fl. N. Am. 1: 448. 1840

F. vesca americana Porter, Torr. Club Bul. 17: 15. 1890

In rocky or dry woods. Common northward across the State, and westward to Lake Erie. Less frequent southward to Westchester county.

This and the preceding species are very closely related. Both possess a reflexed calyx in fruit. The fruit of *F. vesca* is hemispheric; the fruit of *F. americana* is more ovoid or subconic, usually with a distinct neck, and the pubescence of the petioles more appressed than in *F. vesca*.

3 **Fragaria virginiana** Duchesne, Hist. Nat. Fraiss. 204. 1766

Virginia or scarlet strawberry

F. vesca Walt. Fl. Car. 150. 1788. Not L.

F. elatior Raf. Atl. Jour. 152. 1832. Not Ehrh. 1793

F. terrae-novae Rydb. Mem. Dept. Bot. Columbia Univ. 2: 182. 1898

In rather dry, usually fertile soil, of fields, meadows and open woods. Frequent or common throughout the State except the higher mountains and the coastal plain.

Fragaria Grayana Vilmorin; Gay, Ann. Sci. Nat. LV. 8: 202. 1857. *F. virginiana* var. *illinoensis* Prince; A. Gray, Man. ed. 5, 155. 1867. Under this name are classified larger forms with firmer leaves and petioles rather densely hirsute. The original description was made from cultivated specimens said to be from western New York.

A few early varieties of cultivated strawberries, as crystal city, seem to be wholly or partly of *F. virginiana* origin.

4 *Fragaria ananassa* Duchesne, Hist. Nat. Frais. 190. 1766

Pine strawberry

F. grandiflora Ehrh. Beitr. 7: 25. 1792. Not Cranz. 1766

F. vesca ananas Ait. Hort. Kew. 2: 212. 1789

F. chiloensis var. *ananassa* Hort.

Apparently derived from the South American *F. chiloensis* Duchesne, or more probably derived as a hybrid between that and the European *F. vesca* L. Most of the common garden varieties of pine strawberries belong here. They are sometimes found as escapes or established about dwellings and along roadsides.

5 *Fragaria Michauxiana* House, Am. Mid. Nat. 7: 131. 1921

Northern wild strawberry

F. canadensis Michx. Fl. Bor. Am. 1: 299. 1803. Not Crantz. 1766

F. virginiana Eaton, Man. ed. 6, 148. in part. 1833. Not Duchesne

? *F. serotina* Raf. Atl. Jour. 152. 1832

In fields, meadows and open woods. Common across the State northward, westward to Lake Erie and southward to Dutchess county, the Catskills and the Appalachian plateau of New York.

This is the boreal representative of *F. virginiana*, which has nearly subglobose fruit, while *F. Michauxiana* has oblong-conic fruit; thin, firm leaves, silky and usually glaucous beneath; leaflets oblong-obovate or cuneate and sharply serrate; pubescence of the petioles and runners silky and spreading, usually becoming nearly glabrous with age; fruit only 6-7 mm thick and 1-1.25 cm long.

SANGUISORBA (Rupp.) L. Sp. Pl. 116. 1753

Sanguisorba canadensis L., l.c.

American great burnet

Poterium canadense A. Gray, Man. ed. 5, 150. 1867

In swamps, bogs, low meadows and marshy shores. Scattered locally throughout the Adirondack region, chiefly on the shores of ponds, lakes and streams, westward to the St Lawrence river, Lewis and Jefferson counties, southward to the coastal marshes of Long Island and westward in the state to Tompkins, Madison, Seneca, Erie and Cattaraugus counties.

POTERIUM L. Sp. Pl. 944. 1753

Poterium Sanguisorba L., l.c.

Garden or salad burnet, pimpernelle

Sanguisorba minor Scop. Fl. Carn. ed. 2, 1: 110. 1772

S. Sanguisorba Britton, Torr. Club Mem. 5: 189. 1894

In dry or rocky soil and in ballast. Infrequent but reported as adventive or naturalized from many sections of the State. Native of Europe.

AGRIMONIA (Tourn.) L. Sp. Pl. 448. 1753

- 1 **Agrimonia gryposepala** Wallr. Beitr. Bot. 1¹: 49. 1842

Tall hairy agrimony

A. Eupatoria Pursh, Fl. Am. Sept. 335. 1814

A. eupatoria hirsuta Muhl.; W. Barton, Fl. Phila. Prodr. 53. 1815

A. hirsuta Bicknell, Torr. Club Bul. 23: 509. 1896. Not Bong. 1842

In woods and thickets. Frequent or common across the State outside of the higher Adirondacks.

- 2 **Agrimonia rostellata** Wallr. l.c. 42

Woodland agrimony

A. Eupatoria glabra Muhl.; W. Barton, l.c. 53

A. parviflora Seringe, in DC. Prodr. 2: 588. 1825. Not Soland.

A. striata Bicknell, Torr. Club Bul. 23: 512. 1896. Not Michx.

In dry woods, southeastern part of the State. Infrequent.

- 3 **Agrimonia Bicknellii** (Kearney) Rydb.; Bicknell in Torr. Club Bul. 38: 450. 1911

Bicknell's agrimony

A. mollis var., Bicknell, Torr. Club Bul. 23: 517. 1896

A. mollis var. *Bicknellii* Kearney, Torr. Club Bul. 24: 565. 1897

In moist woods and thickets. Rare.

Vaughns, Washington county, *Peck*. Tappan, Rockland county, *C. F. Austin*.

- 4 **Agrimonia striata** Michx. Fl. Bor. Am. 1: 287. 1803

Britton's agrimony

A. Brittoniana Bicknell, Torr. Club Bul. 23: 517. 1896

In moist or damp woods and thickets, or open places, chiefly in alluvial soil. Common in most sections of the State outside of the higher mountains.

- 5 **Agrimonia pubescens** Wallr., l.c. 45

Soft agrimony

A. Eupatoria var. *mollis* T. & G. Fl. N. Am. 1: 431. 1840

A. mollis Britton, Torr. Club Bul. 19: 221. 1892

In dry woods. Infrequent or local across the State south of the Adirondacks. More common southward in the lower Hudson valley, the Susquehanna region and across the southern part of the State.

- 6 **Agrimonia parviflora** Soland. in Ait. Hort. Kew. 2: 130. 1789

Many-flowered agrimony

A. Eupatoria Michx. Fl. Bor. Am. 1: 287. 1803

A. suaveolens Pursh, Fl. Am. Sept. 336. 1814

A. serrifolia Wallr., l.c. 40

In moist or dry woods and thickets or moist openings. Infrequent or rare across the State from Rensselaer county westward. Southward across the State becoming more common.

WALDSTEINIA Willd. Neue Schr. Gesell. Nat. Fr. 2: 105.

pl. 4. 1799

Waldsteinia fragarioides (Michx.) Tratt. Ros. Mon. 3: 107. 1823
Barren or dry strawberry

Dalibarda fragarioides Michx. Fl. Bor. Am. 1: 300. *pl.* 28. 1803

Comaropsis fragarioides Nestler, Monog. Potent. 8. 1816

Geum Waldsteinia Baillon, Hist. Pl. 1: 377. 1869

In woods and on shaded hillsides, especially in open rocky woods. Frequent or common across the State, especially in the mountainous and hilly sections, south to Ulster, Columbia, Greene and Sullivan counties. Infrequent or rare in the southern tier of counties bordering on Pennsylvania.

GEUM L. Sp. Pl. 500. 1753

1 Geum vernum (Raf.) T. & G. Fl. N. Am. 1: 422. 1840
Spring avens, early water avens

Stylipus vernus Raf. Neogent. 3. 1825

In moist shaded places. Infrequent from the Mohawk valley in Herkimer and Oneida counties westward and southward. Not uncommon in the western part of the State, and reported as adventive eastward in the vicinity of New York City.

2 Geum virginianum L. Sp. Pl. 500. 1753
Rough avens, herb bennet

G. laciniatum Murr. Novi Comm. Goett. 5: 30. 1775

Caryophyllata virginiana Lam. Encycl. 1: 399. 1783

Geum heterophyllum Desf.; Seringe in DC. Prodr. 2: 550. 1825

Frequent or common in low grounds, moist thickets and in rich soil in open woods. Rare above 2000 feet in the Adirondacks and largely absent from the coastal plain of Long Island.

3 Geum canadense Jacq. Hort. Vind. 2: 82. 1773 White avens

G. carolinianum Walt. Fl. Car. 150. 1788

G. album J. F. Gmel. Syst. Nat. 2: 861. 1791

Caryophyllata alba Moench, Meth. 660. 1794

Sieversia caroliniana G. Don, Gen. Syst. 2: 528. 1832

In shaded places, chiefly in moist thickets and open woods, sometimes in shaded swamps. Common in most sections of the State except in the pine-barrens of Long Island.

Var. **camporum** (Rydb.) Fernald & Weatherby, Rhodora 24: 49. 1922

G. camporum Rydb. N. Am. Fl. 5: 403. 1913

Flowers and fruiting heads mostly with 60–160 carpels (30–60 in *canadense*); leaves of thicker texture; plant stout, mostly over 4.5 dm tall. Rare in western New York and eastward to Utica, *Haberer*, and Menands, Albany county, *Peck*.

According to Fernald & Weatherby (l.c. 50), "plants with the lower leaves pinnate (*G. Meyerianum* Rydb. N. Am. Fl. 22: 403. 1913) occur in the typical form (of *canadense*) and in varieties *camporum* and *Grimesii*. The original *G. agrimonioides* C. Meyer (Ind. Sem. Petrop. 11: Suppl. 29. 1846, not Pursh, 1814), upon which *G. Meyerianum* is based, appears from the description to belong with typical *G. canadense*." The following New York specimens have been referred to *G. Meyerianum*: Troy, *Howe*. Oneida, Madison county, *House*. Tuxedo, *W. H. Lewis*. Fleishman, Delaware county, *Von Schrenk*.

- 4 *Geum hirsutum* Muhl. Cat. 51. 1813 — Link, Enum. 2: 65. 1822 Cream-colored avens

G. canadense Fischer & Trautv. Ind. Sem. Petrop. 3: 35. 1837

G. album flavum Porter, Torr. Club Bul. 16: 21. 1889

G. canadense flavum Britton, Torr. Club Bul. 18: 270. 1891

G. flavum Bicknell, Torr. Club Bul. 23: 523. 1896

In woods and thickets. Infrequent or rare northward from Washington county to Lake Ontario and Lake Erie. More abundant southward in the State.

- 6 *Geum macrophyllum* Willd. Enum. 557. 1809 Large-leaved avens

In low grounds. Rare in the northern Adirondacks. Not reported elsewhere in the State.

- 7 *Geum strictum* Ait. Hort. Kew. 2: 217. 1789 Yellow avens

G. canadense Murr. Novi Comm. Gott. 5: 33. 1775. Not Jacq. 1773

G. scopulorum Greene, Pittonia 4: 148. 1900

In low meadows, wet thickets and open swamps or marshes. Common across the State northward. Less frequent southward and rare on Long Island and Staten Island.

- 8 *Geum rivale* L. Sp. Pl. 501. 1753 Purple or water avens

G. nutans Crantz, Stirp. Austr. ed. 2, 70. 1769; Raf. Am. Mo. Mag. 2: 344. 1818

Carophyllata rivalis Scop. Fl. Carn. ed. 2, 1: 365. 1772

G. Rafinesqueanum Steud. Nom. Bot. ed. 2, 1: 683. 1841

In swamps, marshes and low wet meadows. Common across the State northward, and locally frequent westward to Lake Erie. Less common southward to the Hudson highlands and rare in the Susquehanna and Chemung valleys.

x **Geum aurantiacum** Fries; Schentz, Nova Acta Soc. Sci. Upsal. III. 7⁶: 30. 1870.

G. rivale x *strictum* Rydberg, N. Am. Fl. 22: 407. 1913

Near North Elba, Essex county, *Peck*.

SIEVERSIA Willd. Mag. Gesell. Nat. Berlin 5: 397. 1811

Erythrocoma Greene, Leaflets 1: 174. 1906

Sieversia triflora (Pursh) Richards. Bot. App. Frankl. Jour. ed. 2, 749. 1823 Long-plumed purple avens

Geum triflorum Pursh, Fl. Am. Sept. 736. 1814

E. triflora Greene, l.c. 175

S. ciliata in Britton & Brown, Illus. Fl. ed. 2, 2: 273. 1913, as to the eastern plant

A boreal and subalpine species, occurring in northern New York only near Watertown, *Crawe* (Torrey, Fl. N. Y. 1: 204. 1843; Paine, Cat. Pl. Oneida Co. 76. 1865, etc).

DALIBARDA L. Sp. Pl. 491. 1753

Dalibarda repens L., l.c. Dalibarda, dewdrop, false violet

Rubus Dalibarda L. Sp. Pl. ed. 2, 708. 1762

D. violaeoides Michx. Fl. Bor. Am. 1: 299. 1803

D. cordata Stephan, Mem. Soc. Nat. Mosc. 1: 129. 1806

Rubus repens Kuntze, Rev. Gen. Pl. 223. 1891

In moist, cool or shaded woods. Common across the State northward. Infrequent in the western counties and rare in the southern tier of counties bordering on Pennsylvania. Local southward to Columbia county and the Catskill mountains of Ulster, Greene and Delaware counties.

RUBUS (Tourn.) L. Sp. Pl. 492. 1753

Subgenus **Chamaemorus**

Chamaemorus (Clus.) Greene, Leaflets 1: 245. 1906

1 **Rubus Chamaemorus** L. Sp. Pl. 494. 1753

Cloudberry, knotberry

Rubus nubis S. F. Gray, Nat. Arr. Br. Pl. 2: 585. 1821

C. anglica Clusius; Greene, l.c.

C. Chamaemorus House, Am. Mid. Nat. 6: 206. 1920

An alpine-arctic species, found in this State only in an interesting outlying southern colony at Montauk Point, Long Island. See Torrey 12: 88. 1912.

Subgenus **Bossekia**

Bossekia Neck. Elem. 2: 91. 1790

Rubacer Rydb. Torr. Club Bul. 30: 274. 1903

2 **Rubus odoratus** L. Sp. Pl. 494. 1753

Purple-flowering raspberry, thimbleberry

R. grandiflorus Salisb. Prodr. 364. 1796*R. guinquelobus* Stokes, Bot. Mat. Med. 3: 142. 1812*Rubacer odoratum* Rydb., l.c.*Bossekia odorata* Greene, Leaflets 1: 210. 1906

In rocky woods and thickets, often along fence rows. Common throughout most sections of the State except on Long Island, where rare or local.

Forma **albiflorus** House, N. Y. State Mus. Bul. 243-244: 51. 1923, with white petals, has been collected at Pyrites, St Lawrence county, by *Mrs O. P. Phelps*.

Subgenus *Cylactis**Cylactis* Raf. Am. Jour. Sci. 1: 377. 1919.— Jour. de Phys. 89: 97. 19193 **Rubus pubescens** Raf. Med. Repos. (III) 2: 333. 1811

Dwarf red blackberry

R. saxatilis canadensis Michx. Fl. Bor. Am. 1: 298. 1803*R. saxatilis americanus* Pers. Syn. 2: 52. 1806*Cylactis montana* Raf. Am. Jour. Sci. 1: 377. 1819*C. lyncemontana* Raf. Jour. de Phys. 89: 97. 1819*R. triflorus* Richards. Bot. App. Frankl. Jour. ed. 2, 747. 1823*R. saxatilis* Bigel. Fl. Bost. ed. 2, 201. 1824. Not L. 1753*R. canadensis* Torrey, Fl. U. S. 1: 483. 1824. Not L. 1753*R. americanus* Britton, Torr. Club Mem. 5: 185. 1894

In swamps, bogs and damp mossy woods. Common northward across the State and westward to Lake Erie. Less common or rare southward to Bronx county, and reported from Long Island. In the southern tier of counties bordering on Pennsylvania frequent only in the swamps of the higher hills.

Forma **roseiflorus** (Peck) comb. nov. (*R. americanus* var. *roseiflorus* Peck, N. Y. State Mus. Bul. 28: 89. 1899), with pink or rose-colored flowers, occurs in the Adirondacks.

Subgenus *Batidaea**Batidaea* (Dumort.) Greene, Leaflets 1: 238. 19064 **Rubus Idaeus** L. Sp. Pl. 492. 1753

European red raspberry

Batidaca itascica Greene, l.c. 239*B. vulgaris* Nieuwl. Am. Mid. Nat. 4: 70. 1915

In various horticultural forms common in cultivation, and uncommon or rare as an escape.

The inflorescence is without glands or minute bristles; prickles, when present, of the new canes strong and obviously broadened at the base.

5 *Rubus strigosus* Michx. Fl. Bor. Am. 1: 297. 1803*
Wild red raspberry

R. pensilvanicus Poir. in Lam. Encycl. 6: 246. 1804
R. Idaeus Pursh, Fl. Am. Sept. 346. 1814. Not L.
R. Matsumuranus Leville & Vaniot, Bul. Acad. Geogr. Bot. 20: 135. 1909
R. Idaeus var. *aculeatissimus* Robinson & Fernald, in Gray, Man. ed. 7, 486.
1908
R. Idaeus, subsp. *strigosus* Focke, Spec. Rub. Part 2, 209. 1911
R. Idaeus var. *strigosus* Maxim. Bul. Acad. St. Petersburg. 17: 161. 1872
Batidaea strigosa Greene, l.c. 238

In dry or rocky situations, often in recent clearings and "burns." Common northward across the State. Less frequent southward and apparently not native south of the Hudson highlands.

Var. *canadensis* (Richards.) House, N. Y. State Mus. Bul. 243-244: 50. 1923

R. Idaeus var. *canadensis* Richards. Bot. App. Frankl. Jour. ed. 2, 747. 1823
Batidaea subarctica Greene, l.c. 242
R. carolinianus Rydb. N. Am. Fl. 22: 447. 1913
R. subarcticus Rydb., l.c. 448

Stephentown, Rensselaer county, *Peck*. North Elba, Essex county, *Peck*. Doubtless elsewhere across the State, especially northward and at rather high altitudes.

A variety of the typical species with white or whitish fruit is

* Fernald (*Rhodora* 21: 97. 1919) gives the following key to the varieties and forms of *Rubus Idaeus* (including *strigosus*) which will be of value to New York students in determining the distribution of them in this State.

Inflorescence without glands or minute bristles; prickles, when present, of the new canes strong and obviously broadened at the base.

R. Idaeus.

Inflorescence bearing glands and minute bristles, new canes, except in an occasional prickless form of var. *strigosus*, bearing slender bristles and often stipitate glands.

Bark of new canes glabrous, or at most glaucous beneath the bristles, in age becoming lustrous

Prickles mostly strong and obviously broadened at the base.

var. aculeatissimus.

Prickles, when present, bristle form and not much thickened at base.

Leaves of new canes with oblong to ovate, acuminate leaflets; of the fruiting canes with 3, rarely 5, similar but shorter leaflets.

New canes bristly.

var. strigosus.

New canes without bristles.

var. strigosus, f. tonsus.

Leaves of the new canes with 3 short ovate to suborbicular round-tipped or blunt leaflets; of the fruiting canes simple and rounded or at most 3-lobed.

var. Egglestoni.

Bark of the new canes cinereous-tomentulose beneath the prickles.

Many of the prickles stout and broad based.

var. heterolasius.

Prickles all bristle form.

var. canadensis.

described as *R. strigosus* var. *albus* Fuller (Bailey, Cycl. Am. Hort. 1582. 1902).

Var. *heterolasius* (Fernald) House, l.c.

R. Idaeus var. *heterolasius* Fernald, l.c. 97

Big Moose Station, Herkimer county, *Peck*. Indian Pass, *House*.

6 *Rubus phoenicolasius* Maxim. Bul. Acad. St Petersburg. 17: 160. 1872

Native of Japan and China. Springly escaped from cultivation on Long Island, near New York City, and rarely elsewhere.

Subgenus *Melanobatus*

Melanobatus Greene, Leaflets 1: 243. 1906

7 *Rubus occidentalis* L. Sp. Pl. 493. 1753 Black raspberry
R. Idaeus americanus, Torr. Ann. Lyc. N. Y. 2: 196. 1827

In open woods, thickets, old fields and recent clearings. Common in most sections of the State except the pine-barrens of Long Island, and infrequent or rare above 1600 feet altitude in the Adirondacks.

Var. *flavobaccus* Blanchard, Rhodora 7: 146. 1905, with pale yellow, light yellow or amber-colored fruit, is rare as a native plant, but is frequent in cultivation under the horticultural names of white raspberry, kenrick, yellow cap, white cap, golden cap, summit, etc.

8 *Rubus neglectus* Peck, 22d Rep't N. Y. State Mus. 53. 1869
Purple wild raspberry
R. occidentalis x *strigosus* Rydb. N. Am. Fl. 22: 443. 1913

In dry or rocky soil of open woods, fields and thickets. Infrequent or occasional across the State, especially northward and outside the higher Adirondacks.

Doubtless of hybrid origin. Said to be the original of the cultivated varieties: Carolina, Gladstone, Columbian, and others.

Subgenus *Eubatus* (*Rubus*, proper).*

9 *Rubus laciniatus* Willd. Hort. Berol. pl. 82. 1807

Occasional in cultivation and escaped or established in southeastern New York. Supposed to be native of Europe.

10 *Rubus cuneifolius* Pursh, Fl. Am. Sept. 347. 1814
Sand blackberry

R. parvifolius Walt. Fl. Car. 149. 1788. Not L. 1753

In sandy soil. Rare on Long Island and Staten Island.

11 *Rubus sativus* (Bailev) Brainerd, Rhodora 2: 26. 1900

R. villosus sativus Bailey, Am. Gard. 11: 719. 1890

R. nigrobaccus sativus Bailey, Evol. Nat. Fr. 379. 1898

Open fields and thickets. Infrequent or rare from the upper Hudson valley westward and southward across the State, north of the coastal plain.

12 *Rubus allegheniensis* Porter, Torr. Club Bul. 23: 153. 1896
Mountain blackberry

R. villosus Bigel. Fl. Bost. 122. 1814. Not Thunb. 1784

R. villosus var. *frondosus* Torr. Fl. N. Y. 1: 215. 1843

R. villosus montanus Porter, Torr. Club Bul. 17: 15. 1890

R. montanus Porter, l.c. 21: 120. 1894. Not Ortman, 1852

R. nigrobaccus Bailey, Evol. Nat. Fr. 379. 1896

In open woods and their borders. Locally abundant from Lake Champlain and Lake George westward and southward across the State, outside of the higher Adirondacks. Apparently rare or absent on much of the sandy coastal plain region.

Hybrids are described with *R. argutus*, *R. Baileyanus*, *R. canadensis*, *R. elegantulus*, *R. pergratus*, *R. frondosus*, *R. flagellaris*, *R. hispidus*, *R. setosus*, and *R. vermontanus*.

13 *Rubus argutus* Link. Enum. 2: 60. 1822 Tall blackberry

R. fruticosus Marsh. Arb. Am. 137. 1785. Not L., 1753

R. floricomus Blanchard, Am. Bot. 9: 106. 1905

R. villosus Britton & Brown, Illus. Fl. ed. 1, 2: 202. 1906. Not Aiton

Chiefly in dry soil of open woods and thickets. Frequent or common across the State south of the Adirondack region.

Hybrids are described with *R. Baileyanus*, *R. canadensis*, *R. cuneifolius*, *R. frondosus*, *R. Enslenii*, *R. hispidus*, *R. setosus*, *R. flagellaris*, *R. vermontanus* and *R. allegheniensis*.

*The blackberries of the northeastern United States, from a systematic point of view, present one of the most perplexing problems of botany. Hybrids are extremely common and often difficult to distinguish, so much so that many of them have been treated as species. Rydberg's work in the North American Flora (1913), is based almost entirely upon the study of herbarium material, blended with Bicknell's excellent field studies made chiefly upon the coastal plain region and on the islands of Nantucket and Martha's Vineyard. Brainerd's work (Brainerd and Peitersen), 1920, is based largely upon cultural experiments, observations and extensive field studies, chiefly in northern New England. The divergence of opinion in these two works is most remarkable. To one familiar with the blackberries in New York State north of the coastal plain, the work of Brainerd appears to present a higher degree of authority, and to approach most closely to a correct presentation of facts.

14 *Rubus frondosus* Bigelow, Fl. Bost. ed 2, 190. 1824

Leafy-flowered blackberry

R. recurvans Blanchard, Rhodora 6: 223. 1904*R. arundelanus* Blanchard, Rhodora 8: 176. 1906*R. philadelphicus* Blanchard, Torreya 7: 56. 1907*R. Brainerdii* Rydb. N. Am. Fl. 22: 467. 1913

On dry or stony soil, often in rocky woods. Frequent in the southeastern part of the State and on Long Island and Staten Island. Less frequent northward to Saratoga county and across the State westward.

Hybrids are described with *R. allegheniensis*, *R. argutus*, *R. canadensis*, *R. elegantulus*, *R. Baileyanus*, *R. flagellaris*, *R. Enslenii*, *R. setosus*, *R. hispidus* and *R. vermontanus*.

15 *Rubus pergratus* Blanchard, Rhodora 8: 96. 1906

Short or square blackberry

R. orarius Blanchard, l.c. 169

In mountainous or hilly woods and thickets. Infrequent or rare from Lake Champlain through the southern Adirondacks to Jefferson and Oswego counties and southward in the Catskills and the Hudson valley. Probably of wider distribution westward in the State.

Hybrids are described with *R. allegheniensis*, *R. flagellaris*, *R. setosus*, *R. vermontanus*, *R. canadensis*.

16 *Rubus canadensis* L. Sp. Pl. 494. 1753

Millspaugh's mountain or thornless blackberry

R. villosus *Randii* L. H. Bailey; Rand & Redfield, Fl. Mt Desert 94. 1894*R. argutus* *Randii* L. H. Bailey, Evol. Nat. Fr. 385. 1898*R. Randii* Rydb., in Britton, Man. 497. 1901*R. Millspaughii* Britton, Torr. Club Bul. 18: 366. 1891*R. amabilis* Blanchard, Rhodora 8: 173. 1906. Not Focke, 1905*R. amicalis* Blanchard, Rhodora 13: 56. 1911

In woods and thickets. Frequent or common northward across the State, apparently outside of the higher Adirondacks, southward to Long Island and Staten Island, and westward to Lake Erie. Rare or absent on the coastal plain.

Hybrids are described with *R. allegheniensis*, *R. argutus*, *R. frondosus*, *R. pergratus*, *R. elegantulus*, *R. sativus*, *R. flagellaris*, *R. setosus*, *R. hispidus*, *R. vermontanus*, *R. Baileyanus*.

17 *Rubus elegantulus* Blanchard, Rhodora 8: 95. 1906

Showy-flowered or needle blackberry

In woods and thickets. Infrequent from Lake Champlain through the eastern and southern Adirondacks, the Lake George region and

southward to Rensselaer county, westward to Hamilton, Jefferson and Oswego counties. Doubtless of somewhat wider distribution.

Hybrids are described with *R. allegheniensis*, *R. frondosus*, *R. canadensis*, *R. setosus*, *R. vermontanus*.

18 *Rubus Baileyanus* Britton, Mem. Torr. Club 5: 185. 1894
Bailey's blackberry

R. villosus humifusus T. & G. N. Am. Fl. 1: 455. 1840. Not *R. humifusus* Weihe, 1825

R. canadensis invisus Bailey, Am. Gard. 12: 83. 1891

R. invisus Britton, Torr. Club Bul. 20: 279. 1893—Rydb. N. Am. Fl. 22: 471. 1913

In dry woods, thickets and fields. Frequent or locally common across the State outside of the Adirondacks.

Hybrids are described with *R. allegheniensis*, *R. argutus*, *R. frondosus*, *R. canadensis*, *R. flagellaris*, *R. Enslenii*, *R. setosus*, *R. hispidus*.

19 *Rubus flagellaris* Willd. Enum. 549. 1809
Low running blackberry

R. procumbens Muhl. (Cat. 50. 1813), Barton, Comp. Fl. Phila. 1: 233. 1818

R. canadensis T. & G. Fl. N. Am. 1: 455. 1840. Not L.

R. villosus Bailey, Evol. Nat. Fr. 371. 1898. Not Thunb.

R. subuniflorus Rydb. in Britt. Man. 498. 1901

In dry or sandy soil, often in rocky places, in open woods, thickets and fields. Common across the State southward, and locally northward to Albany county, central New York and doubtless elsewhere.

In the North American Flora, Rydberg maintains *R. flagellaris* and *R. procumbens* as distinct species, but as Brainerd points out, *R. flagellaris*, the older name, is apparently only a more vigorous or luxuriant form, and the form which typical plants of *R. procumbens* assume when in cultivation.

Hybrids are described with *R. allegheniensis*, *R. argutus*, *R. frondosus*, *R. pergratus*, *R. canadensis*, *R. Baileyanus*, *R. setosus*, *R. hispidus*, *R. Enslenii*.

20 *Rubus Enslenii* Tratt. Ros. Monog. 3: 63. 1823
Enslen's blackberry, dewberry

In dry or sandy soil of open fields and thickets. Infrequent, local or rare in the southeastern part of the State, chiefly south of the Hudson highlands and on Long Island and Staten Island.

Hybrids are described with *R. argutus*, *R. frondosus*, *R. Baileyanus*, *R. flagellaris*, *R. hispidus*, *R. setosus*.

21 *Rubus setosus* Bigelow, Fl. Bost. ed. 2, 198. 1824

Northern bog blackberry

R. hispidus var. *suberectus* Peck, N. Y. State Mus. 44th Rep't 31. 1891*R. nigricans* Rydb., in Britton, Man. 498, in part. 1901; N. Am. Fl. 22: 476. 1913

In low sandy swamps and margins of bogs. Common across the northern part of the State, especially throughout the Adirondack region. Infrequent, local or rare southward to Long Island and westward across the State.

Hybrids are described with *R. allegheniensis*, *R. argutus*, *R. frondosus*, *R. pergratus*, *R. canadensis*, *R. elegantulus*, *R. Baileyanus*, *R. flagellaris*, *R. Enslenii*, *R. sativus*, *R. hispidus* and *R. vermontanus*.

22 *Rubus vermontanus* Blanchard, Am. Bot. 7: 1. 1904

Vermont blackberry

R. nigricans Rydb. in Britton, Man. 498, in part. 1901, not as amended in the N. Am. Fl. 22: 476. 1913*R. nigricans* Robinson & Fernald, in Gray, Man. ed. 7, excl. all syn. except *R. vermontanus*. 1908*R. peculiaris* Blanchard, Rhodora 8: 174. 1906

In low grounds. Infrequent in the northeastern part of the State, especially along Lake Champlain and in Washington county, and locally westward into the eastern and southern Adirondacks. Perhaps of wider distribution.

Hybrids are described with *R. allegheniensis*, *R. argutus*, *R. frondosus*, *R. pergratus*, *R. canadensis*, *R. elegantulus*, and *R. setosus*.

23 *Rubus hispidus* L. Sp. Pl. 493. 1753

Hispid or running swamp blackberry

R. obovalis Michx. Fl. Bor. Am. 1: 298. 1803*R. obovatus* Ell. Bot. S. C. & Ga. 1: 570. 1821. Not Pers. 1806*R. sempervirens* Bigelow, Fl. Bost. ed. 2, 201. 1824

In swamps or low grounds, rarely in drier soil. Common or frequent across the State, except in some portions of the Adirondack region, particularly at high elevations.

Hybrids are described with *R. allegheniensis*, *R. argutus*, *R. frondosus*, *R. canadensis*, *R. Baileyanus*, *R. flagellaris*, *R. Enslenii*, *R. setosus*.

Rubus heterophyllus Willd., is included by Rydberg, in the N. Am. Fl. as a valid species. *R. geophilus* Blanchard, is given as a synonym. Brainerd and Pietersen (Vt. Agric. Exp. Sta. Bul. 217: 79. 1920), place this as a synonym of *Rubus Baileyanus* x *flagellaris*, including here also the synonym *R. invisus*

(Bailey) Britton, Torr. Club Mem. 4: 115. 1893, not Britton, in Torr. Club Bul. 20: 279. 1893, which latter, Brainerd places as a synonym of *R. Baileyanus*.

ROSA (Tourn.) L. Sp. Pl. 491. 1753*

1 *Rosa setigera* Michx. Fl. Bor. Am. 1: 295. 1803

Prairie rose, climbing rose

In thickets and open woods, more rarely in open places. Infrequent across the State south of the Adirondacks.

West Albany, *Peck* (38th Rep't N. Y. State Mus. 107. 1885). Rochester, *Booth, Clinton*; Buffalo; Oak Orchard creek near Albion, *Clinton* (19th Rep't Regents 107. 1866). Banks of Genesee river; Brighton; Irondequoit and in Wayne county (Proc. Rochester Acad. 3: 62. 1896). Oneida, Madison county, *Maxon*.

2 *Rosa rubifolia* R. Br.; Ait. Hort. Kew. ed. 2, 3: 260. 1811

R. kentukensis Raf. Ann. Gen. Sci. Phys. 5: 213. 1820

R. setigera tomentosa T. & G. Fl. N. Am. 1: 458. 1840

Reported as rare in the western part of New York. Definite records are lacking.

3 *Rosa gallica* L. Sp. Pl. 492. 1753

Native of Europe and sparingly naturalized or escaped from cultivation in this State.

This species is the origin of a number of ornamental varieties: Var. **Agatha** Thory; Var. **incarnata** (Mill.) Voss.; Var. **macrantha** Hort.; Var. **provincialis** (Mill.), which includes var. *officinalis* Thory; Var. **pumila** Jacq. (the *Rosa austriaca* of Crantz); Var. **centifolia** (L.) Regel; Var. **muscosa** (Ait.) Ser.; the moss rose, occasional as an escape, or persistent in old grounds, and formerly very common in cultivation; Var. **cristata** Curt., and Var. **pomponia** Nouv. Duh., which has also been reported as established in this State.

4 *Rosa rubiginosa* L. Mant. 564. 1771

Sweetbrier

R. suaveolens Pursh, Fl. Am. Sept. 346. 1814

Native of Europe and central Asia. Common in cultivation and frequently escaped to roadsides, etc.

5 *Rosa micrantha* Borrer; Smith, Engl. Bot. pl. 2490. 1813

Native of Europe and rarely escaped from cultivation in this State.

* The treatment here according to the genus *Rosa*, follows for the most part Rydberg's monograph of the genus in the North American Flora (Vol. 22. 1918), modified as regards distribution and abundance of the species by the material in the state herbarium. It is quite evident that in this genus too much stress has been placed upon herbarium material, with little or no knowledge regarding the variations or possible hybridity of the species, as they occur in the field. A more critical study of the genus, based upon careful cultural experiments and more extensive field study, will undoubtedly alter to quite an extent, the present conception of the genus.

6 **Rosa canina** L. Sp. Pl. 491. 1753 Dog rose, wild briar

R. flexuosa Raf. Prec. Dec. 35. 1814

R. Rafinesquiana Tratt. Ros. Monog. 2: 254. 1823

In waste places and old fields or neglected grounds, and especially along roadsides. Adventive or naturalized from Europe.

7 **Rosa palustris** Marsh. Arb. Am. 135. 1785

Swamp, or wild rose

R. carolina L. Sp. Pl. Ed. 2, 703. 1762; Britton & Brown, Illus. Fl. ed. 2, 2: 285. 1913. Not L. 1753

R. pennsylvanica Michx. Fl. Bor. Am. 1: 296. 1803

R. caroliniana Bigel. Fl. Bost. 121. 1814

R. hudsonica Thory; Redoute, Ros. 1: 95. 1817

R. elegans Raf. Ann. Gen. Sci. Phys. 5: 214. 1820. Not Salib. 1799

R. salicifolia Redoute, Roses 3: 121. 1823

In swamps and low grounds. Frequent or common across the State.

8 **Rosa gemella** Willd. Enum. Hort. Berol. 1: 544. 1809

Apparently restricted in distribution in this State to Long Island and Staten Island.

Bay side of Staten Island, *Taylor* (Fl. Vic. N. Y. 380. 1915). South Beach, Staten Island, *Burnham*. New Dorp, *Kearney*. Eastport, *Schrenk*.

9 **Rosa nanella** Rydberg, N. Am. Fl. 22: 497. 1918

In sand dunes along the coast of Long Island. Rare.

Peconic River, *Taylor*. Oak Island, *Taylor*. Smith's point, Fire Island, *E. L. Morris*.

10 **Rosa virginiana** Mill. Gard. Dict. ed. 8, No. 10, 1768

Low or pasture rose

R. carolinensis Marsh. Arb. Am. 135. 1785

R. blanda Ait. Hort. Kew. 2: 202, in part. 1789

R. lucida Ehrh. Beitr. 4: 22. 1789

R. pennsylvanica Andr. Roses pl. 101. 1828

In dry or rocky soil. Frequent or common across the State outside of the higher Adirondacks.

11 **Rosa Lyoni** Pursh, Fl. Am. Sept. 345. 1814 Lyon's rose

In fields and thickets, chiefly in the southeastern, central and western parts of the State. Infrequent.

12 **Rosa obovata** Raf. Ann. Gen. Sci. Phys. 5: 217. 1820

In fields, thickets and open woods, southeastern part of the State chiefly in the Hudson highlands and Catskill mountains, on Long Island and westward to Tompkins county.

13 **Rosa carolina** L. Sp. Pl. 492. 1753 Low pasture rose

R. humilis Marsh. Arb. Am. 136. 1785

R. parviflora Ehrh. Beitr. 4: 21. 1789

R. pennsylvanica Wangenh. Beitr. Nordam. Holz. 113. 1787

R. caroliniana Michx. Fl. Bor. Am. 1: 295. 1803

R. pratensis Raf. Ann. Gen. Sci. Phys. 5: 215. 1820

R. virginiana humilis C. K. Schneid. Handb. Laubh. 1: 570. 1906

R. virginiana Britton & Brown, Illus. Fl. ed. 2, 2: 285. 1913 Not Mill. 1768

In dry or rocky soil. Frequent or common across the State outside of the higher Adirondacks. A hybrid between *R. carolina* and *R. palustris*, has been collected in central New York and on Long Island.

14 **Rosa serrulata** Raf. Ann. Gen. Sci. Phys. 5: 218. 1820

In dry or rocky soil on the hills and highlands of the lower Hudson valley and the Catskill mountains.

15 **Rosa Bicknellii** Rydberg, N. Am. Fl. 22: 500. 1918

In dry soil along the coast of Long Island. Rare. Long Beach, East Rockaway and Lawrence, *Bicknell*. Lone Hill and Peconic river, *Taylor*.

16 **Rosa acicularis** Lindl. Ros. Monog. 44. 1820

Prickly rose

R. Sayi Schw. in Keating, Narr. Exp. Long 2: 388. 1824

R. stricta Macoun & Gibson, Trans. Bot. Soc. Edinb. 12: 324. 1875

R. Engelmanni S. Wats. Gard. & For. 2: 376, in part. 1889

Rocky woods and fields. Washington and Essex counties.

Westport, *Peck* (46th Rep't N. Y. State Mus. 19. 1893). Griswold's Mills, *Burnham* (N. Y. State Mus. Bul. 94: 42. 1905).

17 **Rosa rugosa** Thunb. Fl. Jap. 213. 1784

Native of China and Japan, and occasional as an escape from cultivation. Several horticultural varieties and hybrids are known.

18 **Rosa subblanda** Rydberg, N. Am. Fl. 22: 509. 1918

R. blanda Jacq. Fragm. pl. 107. 1809. Not Ait. 1789

R. fraxinifolia Lindl. Ros. Monog. 26, in part. 1820

R. blanda glabra Crepin, Bul. Soc. Bot. Belg. 15: 33. 1876

In fields, thickets and low grounds, usually in moist rocky situations. Infrequent or rare, but widely distributed across the State north of the coastal plain. Perhaps only a smooth form of the following species.

19 **Rosa blanda** Ait. Hort. Kew. 2: 202. 1789

Smooth or meadow rose

R. Solanderi Tratt. Ros. Monog. 2: 150. 1823

R. blanda pubescens Crepin, l.c.

In moist rocky places. Frequent or common across the State north of the coastal plain of Long Island.

- 20 *Rosa spinosissima* L. Sp. Pl. 491. 1753 Cinnamon rose
R. cinnamomea L. Syst. Nat. ed. 10, 1062. 1759. Not L. 1753

Native of Europe and northern Asia. Frequent in cultivation and occasionally escaped or established. Several varieties and hybrids are known, including Var. *altaica* (Willd.) Thory; var. *mitissima* W. D. Koch, and Var. *myriacantha* (DC.) W. D. Koch.

- 21 *Rosa pimpinellifolia* L. Syst. Nat. ed. 10, 1063. 1759
 Scotch rose

R. spinosissima L. Sp. Pl. 491, in part. 1753
R. lutescens Pursh, Fl. Am. Sept. 735. 1814
R. illinoensis Baker; Willm. Gen. Rosa 1: 243. 1910
R. hispida Sims, in Bot. Mag. t. 1570.

Native of Europe and occasionally escaped from cultivation in this State.

Family 53 **MALACEAE** Small, Fl. SE. U. S. 529. 1903

(P o m a c e a e L. Phil. Bot. ed. 2, 24, 36. 1754)

Apple family

SORBUS (Tourn.) L. Sp. Pl. 477. 1753

- 1 *Sorbus americana* Marsh. Arb. Am. 145. 1785 *
 American mountain ash

S. microcarpa Pursh, Fl. Am. Sept. 341. 1814
Pyrus americana DC. Prodr. 2: 637. 1825

In low woods or moist slopes. Common northward across the State, and throughout the Adirondack and Catskill mountains. Less common or local southward to Westchester county, the upper Sus-

**Sorbus americana* × (*Aronia*) *melanocarpa* C. K. Schneider
 (Handb. Laubh. 1: 677. 1906)

Mespilus sorbifolia Poir. in Lam. Encycl. Suppl. 4: 73. 1816

× *Aronia Watsoniana* Roem. Syn. Monogr. 3: 159. 1847

Sorbus Sargentii Dippel, Handb. Laubh. 3: 377. 1893

Aronia Sargentii Zabel, Handb. Laubh. 193. 1903

Pyrus americana × *melanocarpa* Aschers. & Graebn. Syn. 6²: 110. 1906

This hybrid seems to have been known in European gardens from a very early date, and has been known to occur spontaneously there, but seems not to have been recorded as occurring in this country where both of the parent species are native.

Sorbus americana × (*Aronia*) *arbutifolia* C. K. Schneider (l.c.)

S. monstrosa C. K. Schneider, l.c.

Aronia monstrosa Zabel, l.c.

Pyrus americana × *arbutifolia* Aschers. & Graebn., l.c. 110

Like the preceding hybrid, known only in Europe.

quehanna valley, and westward to the upland swamps of Tompkins, Yates, Wyoming and Erie counties.

2 **Sorbus dumosa** Greene, Pittonia 4: 129. 1900

Northern mountain ash

S. scopulina, and *S. subvestita* Greene, l.c. 130

S. sambucifolia and *S. sitchensis* of N. Y. Reports

Pyrus dumosa Fernald, Rhodora 23: 266. 1922

S. decora Schneider, Bul. Herb. Boiss II. 6: 313. 1906

S. americana var. *decora* Sarg. Man. N. Am. Trees, Ed. 2, 391. 1922

In moist ground on the subalpine mountain slopes and summits of northern New York. Rare.

Mount Marcy, Mount McIntyre, and Peck Pass, *Peck* (28th Rep't N. Y. State Mus. 46. 1876; 52d Rep't 662. 1899; N. Y. State Mus. Bul. 28: 92. 1899).

Doctor Greene distinguished the eastern American form of this species as *Sorbus subvestita* (described from Minnesota), but Britton & Brown (Illus. Fl. ed. 2, 2: 287. 1913), unite the eastern and western forms under the name of *Sorbus scopulina*, described from New Mexico. The plant is called *Pyrus sitchensis* in Gray's Manual, ed. 7, 1908. Fernald (Rhodora 23: 266. 1922), takes up *Sorbus dumosa* Greene (described from Arizona), as the prior name (it has only page priority over *S. subvestita*) for this species which appears to extend westward to the Rocky mountains.

3 **Sorbus Aucuparia** L. Sp. Pl. 477. 1753

Rowan tree, European mountain ash

Frequent in cultivation and rare as an escape or as an established species in some localities.

PYRUS (Tourn.) L. Sp. Pl. 479. 1753

Pyrus communis L., l.c.

Pear, choke pear

In thickets and woods. Rare or local as an escape from cultivation. Many improved or horticultural varieties are common in cultivation.

MALUS Mill. Gard. Dict. Abr. ed. 4. 1754

1 **Malus baccata** (L.) Borck. Handb. Forstbot. 2: 1280. 1800-03

Siberian crab apple

Pyrus baccata L. Mant. 1: 75. 1767

Common, at least in the form of various horticultural varieties, in cultivation, and rarely escaped.

Malus floribundus Sieb., the flowering crab, common as an ornamental shrub or small tree, is rarely found as an escape or long persistent about old grounds.

2 *Malus glaucescens* Rehder, Trees & Shrubs 2: 139. 1911

American wild crab apple

In thickets. Herkimer and Oneida counties westward to Lake Erie and southward to Broome county. Rare along the eastern part of its range, becoming more common westward. It is in part the *Malus coronaria* and *Pyrus coronaria* of N. Y. Reports.

3 *Malus fragrans* Rehder, Trees & Shrubs 2: 228. 1913

Fragrant wild crab apple

Pyrus coronaria DuRoi, Harbk. Baumz. 2: 229. 1772; Marsh. Arb. Am. 118. 1785; Sarg. Silva 4: 71. t. 167. Not L.
Malus coronaria Moench, Meth. 682. 1794; Britton & Brown, Illus. Fl. 2: 235. f. 1979. Not Mill

In open woods and thickets. Seneca and Ontario counties westward and southward. The true *Malus coronaria* is said by Rehder, not to occur in New York.

Var. *elongata* Rehder, l.c. 229. Reported from Canandaigua, Seneca Junction, Salamanca, Olean, and South Buffalo.

4 *Malus Malus* (L.) Shafer. Ann. Carnegie Mus. 1: 47. 1901

Apple, Scarb- or wilding-tree

Pyrus Malus L. Sp. Pl. 479. 1753

Malus sylvestris Mill. Gard. Dict. ed. 8. No. 1. 1768

In woods and thickets. Frequent or common in many sections of the State. Native of Europe and Asia.

ARONIA Medic. Phil. Bot. 140. 1789 *

Adenorachis (DC.) Nieuwl. Am. Mid. Nat. 4: 93. 1915

1 *Aronia atropurpurea* Britton, Man. 517. 1901 * *

Purple-fruited chokeberry

Pyrus arbutifolia var. *atropurpurea* Robinson, Rhodora 10: 33. 1908

Adenorachis atropurpurea Nieuwl. l.c. 94

*According to Nieuwland, the name *Aronia* Medicus, is invalidated for use by the earlier publication of *Aronia* Mitchell in 1769, a name equivalent to *Orontium* L. The Index Kewensis gives 1748 as the date of publication of Mitchell's *Aronia*.

If Mitchell's *Aronia* was properly published in 1769, it would invalidate *Aronia* Medicus, in which case the name proposed as a subgenus by DeCandolle and raised to generic rank by Nieuwland should probably be used. Several generic names have been proposed, *Hahnia* Medic., *Azarolus* Borkh, etc., which include our species of *Aronia*, but apparently none of them based upon species congeneric with our plants, here referred to *Aronia* Medic.

** *Aronia arbutifolia* x *melanocarpa* (*A. arbutifolia* x *nigra* Koehne; *Pyrus arbutifolia* x *melanocarpa* Aschers. & Graebn.; *Pyrus floribunda* Lindl. Trans. Hort. Soc. 7: 230. 1827-Bot. Reg. pl. 1006; *Aronia floribunda* Spach), apparently well-known in European gardens should be looked for in this country.

In low or wet grounds and in shaded swamps. Infrequent across the State northward outside of the higher Adirondacks. Rare in the western counties. More common southward toward and along the coastal region.

- 2 **Aronia arbutifolia** (L.) Pers. Syn. 2: 39. 1809
Red chokeberry

Mespilus arbutifolia L. Sp. Pl. 478. 1753
Pyrus arbutifolia L. f. Suppl. 256. 1781
M. arbutifolia var. *erythrocarpa* Michx. Fl. Bor. Am. 1: 292. 1803
Adenorachis arbutifolia Nieuwl., l.c. 94

In swamps and wet woods. Frequent or common throughout most sections of the State, except the higher Adirondacks.

- 3 **Aronia melanocarpa** (Michx.) Britton; in Britton & Brown, Illus. Fl. ed. 2, 2: 291. 1913
Black chokeberry

Mespilus arbutifolia var. *nigra* Willd. Sp. Pl. 2: 1013. 1800
M. arbutifolia var. *melanocarpa* Michx. l.c. 292
Pyrus melanocarpa Willd. Enum. 525. 1809
Pyrus nigra Sargent, Gard. & For. 3: 416. 1890
A. arbutifolia var. *melanocarpa* Torr. Fl. U. S. 1: 476. 1824
A. nigra Britton, Torr. Club Mem. 5: 182. 1894
Adenorachis melanocarpa Nieuwl., l.c. 94

In swamps and low woods, often in sandy barrens or on rocky exposed places. Common throughout the State.

AMELANCHIER Medic. Phil. Bot. 1: 155. 1789

- 1 **Amelanchier canadensis** (L.) Medic. Geschichte 79. 1793
Common june berry, service berry

Mespilus canadensis L. Sp. Pl. 478. 1753
Pyrus Botryaphium L. f. Suppl. 255. 1781
Amelanchier Botryaphium DC. Prodr. 2: 632. 1805
A. canadensis var. *Botryaphium* T. & G. Fl. N. Am. 1: 473. 1840

In dry or moist woodlands. Common throughout most sections of the State.

- 2 **Amelanchier laevis** Wiegand, Rhodora 14: 154. 1912
Smooth or northern service berry

A. canadensis T. & G. Fl. N. Am. 1: 473. 1840, and largely or in part of subsequent authors, at least as to glabrous forms of *A. canadensis*, so-called.

In woods and thickets. Frequent across the State northward and throughout the central highlands of the State, the Catskills and the highlands of the Hudson valley, southward on the Appalachian plateau.

- 3 **Amelanchier oblongifolia** (T. & G.) Roemer, Fam. Nat. Syst. Rosifl. 147. 1847
Southern swamp shadbush

Mespilus canadensis obovalis Michx. Fl. Bor. Am. 291. 1803

Pyrus ovalis Pursh, Fl. Am. Sept. 340. 1814. Not Willd.

A. canadensis var. *oblongifolia* T. & G., l.c.

A. obovalis Ashe, Bot. Gaz. 35: 434. 1903

A. canadensis var. *obovalis* Sargent, Silva 4: 129. 1892

In sandy barrens or swamps, chiefly on the coastal plain region in Westchester county, Long Island and Staten Island. Locally northward to Albany county, the sandy sections of central New York and the Ontario lowlands.

4 *Amelanchier intermedia* Spach, Hist. Veg. 2: 85. 1834

Northern swamp shadbush

In sandy swamps, moist or sterile rocky or sandy soil. Locally common across the State northward outside of the higher Adirondacks, southward to Long Island.

The leaves of *A. oblongifolia* are said by Wiegand to be oblong, obtuse or acute, not "laevis-like," becoming subglabrate, not reddish when young, teeth fine, close; sepals narrowly deltoid, erect-spreading; fruit dark, juicy.

The same author distinguishes *A. intermedia*, as having leaves oblong, acute, those of the shoots more "laevis-like," becoming subglabrate, often reddish when young, teeth fine, but more distant; sepals narrowly deltoid, irregularly recurved; fruit dark, juicy. Range more Alleghanian and Piedmont, in bogs.

From the description of the fruit given by Rafinesque, his *Malus microcarpa* (Am. Mo. Mag. 2: 206. Jan. 1818), may be the same as *Amelanchier intermedia*:

"Arborescent, petioles round and pubescent: leaves elliptical acuminate serrulate, base cordate, pubescent above, tomentose beneath; flowers racemose, pedicels biglandular; fruits globular, red.—Obs. A fine new tree, 15 to 25 feet high, which grows on the banks of brooks, near Fishkill, Newburgh, Catskill, &c. It is a real wild apple tree since the styles are united at the base and the fruit not turbinate, that fruit is smaller than a cherry, entirely red when ripe, and very good to eat; it ripens in June and July; the flowers blossom in April and May. The branches and twigs are reddish brown, the upper part of the ovary is woolly, as well as the margin of the calyx, whose divisions are ovate acute reflexed."

Amelanchier nantucketensis Bicknell (Torr. Club Bul. 37: 453 1911), is regarded by Wiegand as a hybrid between *Am. oblongifolia* and *Am. stolonifera*. A similar form from eastern and southern New England is described by Robinson (Rhodora 10: 33. 1908) as *Am. oblongifolia* var. *micropetala*. It is also regarded by Wiegand as a hybrid.

5 *Amelanchier stolonifera* Wiegand, Rhodora 14: 144. 1912

A. spicata and *A. oblongifolia* of N. Y. reports in part

In sandy or dry rocky places. Locally common across the State south of and outside of the Adirondack region, especially in the sandy regions of the eastern Adirondacks, Albany, Lewis, Oneida

and St Lawrence counties, and southward to Long Island, westward on the Ontario lowlands.

6 **Amelanchier humilis** Wiegand, Rhodora 14: 141. 1912

On rocks and ledges, usually on limestone. Infrequent from Rensselaer county and the Helderberg mountains of Albany county southward to the Hudson highlands and westward to St Lawrence, Onondaga, Tompkins and Genesee counties.

7 **Amelanchier amabilis** Wiegand, Rhodora 23: 48. 1921

A. sanguinea forma *grandiflora* Wiegand, Rhodora 14: 139. 1912
A. sanguinea var. *grandiflora* Rehder, Standard Cyclop. Hort. 1: 272. 1914
A. grandiflora Wiegand, Rhodora 22: 149. 1920. Not Rehder

On crests and ledges of shale and calcareous formations, Albany county westward to Niagara county.

Indian Ladder, Albany county, *House*. Cooperstown Junction, *Hunnewell* (Rhodora 23: 72. 1921). Tompkins, Livingston, Genesee and Niagara counties, *Wiegand* (Rhodora 22: 150. 1920).

8 **Amelanchier sanguinea** (Pursh) DC. Prodr. 2: 633. 1825

Round-leaved june berry

Mespilus canadensis var. *rotundifolia* Michx. Fl. Bor. Am. 1: 291. 1803
Pyrus sanguinea Pursh, Fl. Am., Sept. 340. 1814
Aronia sanguinea Nutt. Gen. 1: 306. 1818
Am. rotundifolia Roem. Syn. Mon. 3: 146. 1847
Am. canadensis var. *rotundifolia* T. & G., l.c. 473
Am. spicata Robinson & Fernald, in Grav's Man. ed. 7, 460. 1908 (probably not *Crataegus spicata* Lam.)
Pyrus ovalis Richards. Bot. App. Frankl. Jour. 1823, doubtfully of Willd.

In woods and thickets, often on rocky slopes, ledges, exposed ridges or along rocky streams and shores of lakes and ponds, often in poor or sterile soil. Common in the Adirondack region and across the State northward. Less frequent southward on the higher hills of Washington and Rensselaer counties, the Helderberg and Catskill mountains and westward on the highlands of central and western New York.

9 **Amelanchier Bartramiana** (Tausch) Roem. Fam. Nat. Syst.

Rosif. 145. 1847

Oblong-fruited june berry

Mespilus canadensis var. *oligocarpa* Michx., l.c. 291
Pyrus Bartramiana Tausch, Flora 21: 715. 1838
Am. oligocarpa Roem., l.c.
Am. canadensis var. *oligocarpa* T. & G., l.c. 473
Am. arguta Nutt., in Britton, Man. Ed. 3, 1076. 1907

In mountainous swamps. Common throughout the Adirondack region and locally common across the northern part of the State, southward to Washington, Fulton, Herkimer and Lewis counties.

Within its range apparently hybridizes with *Am. sanguinea* and *Am. canadensis*, and perhaps also with *Am. laevis*.

CRATAEGUS L. Sp. Pl. 475. 1753

(By W. W. Eggleston)

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O x y c a n t h a e Loud.

- 1 Crataegus monogyna** Jacq. Fl. Aust. 3: 50. *pl* 292. *f. l.* 1775
 Hawthorn, white or may thorn

Common in cultivation. Flowers white or pink, sometimes double-flowered. Sparingly escaped from cultivation. Sometimes reported as *C. oxyacantha*.

C r u s - g a l l i Loud.

- 2 Crataegus crus-galli** L. Sp. Pl. 476. 1753
 Cock-spur thorn, Newcastle thorn

C. arduennae Sarg. Bot. Gaz. 35: 377. 1903
C. genesecensis Sarg. Bul. N. Y. State Mus. 122: 27 1908

chiefly in sandy soil. Albany, Crown Point, Ticonderoga. Hemlock lake, Rochester and Rensselaer.

The recognized varieties are: var. **prunifolia** (Poir.) T. & G., Fl. N. Am. 1: 464. 1840 (*Mespilus prunifolia* Poir. in Lam. Encycl. Meth. 4: 443. 1797). Var. **pyracanthifolia** Ait. Hort. Kew. 2: 170. 1788. Var. **rubens** Sarg. N. Y. State Mus. Bul. 167: 75. 1913. **Crataegus crus-galli** x **succulenta** Eggl. N. Y. Mus. Bul. 243-244: 63. 1923
C. persimilis Sarg. Proc. Roch. Avad. 4: 91. 1903
C. helderbergensis Sarg. N. Y. State Mus. Bul. 105: 49. 1906
C. robusta Sarg., l.c. 122: 28. 1908
C. cerasina Sarg., l.c. 122: 29. 1908

Known from Buffalo, Niagara Falls, Rochester, Hemlock lake, and at Thompson's lake, Albany county.

P u n c t a t a e Loud.

3 **Crataegus punctata** Jacq. Hort. Vind. 1: 10. t. 28. 1770

Large-fruited or white thorn, dotted haw

C. desueta Sarg. N. Y. State Mus. Bul. 122: 84. 1908

In moist or rich soil, chiefly along streams, shores of ponds, lakes and bottom-lands. Common across the State outside of the higher Adirondacks.

Westport, Edwards, Rossie, Clayton, Sylvan Beach, Peterboro, Portage, Olean, Coopers Plains, Rochester, Lewis Point on Oneida Lake, Albany, Menands.

Var. **aurea** Ait. Hort. Kew. 2: 170. 1789 (*C. crocata* Ashe, Ann. Carneg. Mus. 1: 389. 1902). Albany and Menands, Albany county, and at Rossie, St Lawrence county.

Var. **canescens** Britton, Torr. Club Bul. 21: 231. 1894. Rare near Rensselaer (North Greenbush), Peck.

Crataegus punctata x **succulenta** Eggleston, l.c.

C. menandiana Sarg. N. Y. State Mus. Bul. 105: 68. 1906

Menands, Albany county, Peck.

4 **Crataegus cuneiformis** (Marshall) Eggleston, in Deam, Forestry of Indiana 253. 1912 Marshall's thorn

Mespilus cuneiformis Marshall, Arb. Am. 88. 1785

C. pausiaca Ashe, Ann. Carneg. Mus. 1: 390. 1902

C. barbara Sarg. N. Y. State Mus. Bul. 122: 33. 1908

Known only from Chapin, Ontario county, and Brighton, Monroe county, Edson.

5 **Crataegus suborbiculata** Sargent, Rhodora 3: 72. 1901

Caughawaga thorn

C. Saundersiana Sargent, Ont. Nat. Sci. Bul. 4: 65. 1908

C. notabilis Sargent, N. Y. State Mus. Bul. 122: 32. 1908

C. Dewingii Sargent, l.c. 34

C. Clintoniana Sarg., l.c. 39

C. Brownietta Sarg. N. Y. State Mus. Bul. 167: 78. 1913

Chiefly in the upland limestone areas of western New York.
Infrequent.

Hemlock lake, Buffalo, Belfast, Palmyra, Portageville, Tuscarora.

Intricatae Sargent

6 *Crataegus Boyntoni* Beadle, Bot. Gaz. 28: 409. 1899

Boynton's thorn

C. foetida Ashe, Ann. Carneg. Mus. 1³: 389. 1902

C. Baxteri Sargent, Proc. Rochester Acad. 4: 107. 1903

In shaly soils. Genesee valley region east to the Hudson valley
and southward.

Hemlock lake, Castile, Coopers Plains, Chapin, Rochester,
Honeoye lake, Ithaca, Lansingburg, Albany, Utica, Herkimer, Olean,
Salamanca.

7 *Crataegus intricata* J. Lange, Bot. Tidskr. 19: 246. 1894

Biltmore thorn, Lange's thorn

C. modesta Sargent, Rhodora 3: 28. 1901

C. biltmoreana Beadle, Bot. Gaz. 28: 406. 1899

C. coccinea Eggleston in Robinson & Fernald, Man. 466. 1908

C. premora Ashe, Ann. Carneg. Mus. 1: 391. 1902

Open rocky woods. Hudson valley in Albany and Rensselaer
counties, southward and westward.

Albany, Lansingburg, West Point (*Torrey*, 1825), Bedford,
Dykemans, Moore's Mills, Putnam county, New York City, Coopers
Plains.

8 *Crataegus Stonei* Sargent, Rhodora 5: 62. 1903

Stone's thorn

C. Peckii Sargent, l.c. 63

Lansingburg, Rensselaer county, *Peck*.

9 *Crataegus straminea* Beadle, Bot. Gaz. 30: 345. 1900

Alleghany thorn

C. apposita Sargent, Bot. Gaz. 35: 103. 1903

C. intricata Sargent, Rhodora 2: 28. 1901. Not J. Lange

C. verecunda Sargent, Proc. Roch. Acad. 4: 109. 1903

C. Cornellii Sargent, N. Y. State Mus. Bul. 122: 105. 1908

C. verecunda var. *gonocarpa* Peck, N. Y. State Mus. Bul. 139: 33. 1910

On rocky hillsides. Rensselaer county westward and southward
across the State.

Troy, Lansingburg, VerPlanck Point, Moore's Mills, Albany,
Ithaca, Rochester, Hemlock lake, Corning, Painted Post, Coopers
Plains.

Var. *Bissellii* (Sargent) Eggleston, N. Y. State Mus. Bul. 243-244: 63. 1923 Bissell's thorn

C. Bissellii Sargent, *Rhodora* 5: 65. 1903

C. apposita Sarg. var. *Bissellii* Eggl. *Rhodora* 10: 76. 1908

With about the same range but less frequent. North Greenbush, Staatsburg, Ithaca, Coleman's Station, Moore's Mills, New York City, Rochester.

Parvifoliae Loudon

10 *Crataegus uniflora* Muench. Hausv. 142. 1770

Dwarf thorn

C. parvifolia Ait. Hort. Kew. 2: 169. 1789

C. Smithii Sargent, *Trees & Shrubs* 2: 67. 1903

C. tomentosa Eggl. in Robinson & Fernald, *Man.* 467. 1908

In sandy soil, pine-barrens of Staten Island and Long Island.

Sneeder's Landing, Tottenville, Richmond, between Rossville and Kreischeville, Staten Island; Manorville and Yaphank, Long Island.

Rotundifoliae Eggleston

11 *Crataegus chrysocarpa* Ashe, N. Car. Agr. Col. Bul. 175: 110. 1900 Round-leaved thorn

Mespilus rotundifolia Ehrh. Beitr. 3: 30. 1788

C. rotundifolia (Ehrh.) Moench, *Baum. Weiss.* 29. t. 1. 1785 Not Lamarck, 1783

C. Dodgei Ashe, Jour. E. Mitch. Soc. 19: 26. 1901

C. Gravesii Sargent, *Rhodora* 5: 159. 1903

C. caesariata Sarg. N. Y. State Mus. Bul. 105: 64. 1906

C. illuminata Sarg., l.c. 65

C. rotundifolia var. *chrysocarpa* Eggl. *Rhodora* 10: 79. 1908

C. verrucalis Peck, N. Y. State Mus. Bul. 122: 123. 1908

In rich or rocky soil, widely distributed across the State. In some sections common.

Lake Placid, Essex, Warren and Hamilton counties, Albany, Rensselaer, Ogdensburg, DeKalb and Canton, St Lawrence county, Herkimer, Crown Point, Elmira, Belfast, Tuscarora, Coopers Plains, Moore's Mills, Putnam county.

Var. *Faxoni* (Sargent) Eggleston, N. Y. State Mus. Bul. 243-244: 63. 1923 Faxon's thorn

C. Faxoni Sargent, *Rhodora* 5: 161. 1903

C. chateaugayensis Sarg. N. Y. State Mus. Bul. 122: 121. 1908

C. coccinea Sarg. *Silva N. Am.* 13: 133. t. 683. 1902

C. divergens Sarg. N. Y. State Mus. Bul. 105: 66. 1906

C. praecoqua Sarg. *Rhodora* 5: 167. 1903

C. praecox Sargent, *Rhodora* 3: 27. 1903

C. rotundifolia var. *Faxoni* Eggl. *Rhodora* 10: 79. 1908

C. rotundifolia var. *pubera* Sarg. *Rhodora* 11: 183. 1909

Orient Point, Albany, Crown Point, North Greenbush, Pawling, Fort Ann, North Elba, Lake Placid, Chateaugay, Buffalo, Odgensburg.

Crataegus chrysocarpa x macrosperma Eggleston, l.c. 64

C. maligna Sargent, N. Y. State Mus. Bul. 167: 111. 1913

Collected near Ogdensburg, *J. Dunbar*.

Crataegus chrysocarpa x punctata Eggleston, l.c.

C. neo-baxteri Sargent, N. Y. State Mus. Bul. 122: 74. 1908

At Tuscarora, *Baxter*.

12 **Crataegus irrasa** Sargent, *Rhodora* 5: 116. 1903. Represented
in New York by:

Var. **Blanchardi** (Sarg.) Eggl. *Rhodora* 10: 79. 1908
Blanchard's thorn

C. Blanchardi Sargent, *Rhodora* 7: 218. 1905

C. noveboracensis Sarg. N. Y. State Mus. Bul. 116: 22. 1907

Keene and North Elba, Essex county, *Peck*.

Var. **divergens** Peck, N. Y. State Mus. Bul. 75: 51. 1904

North Greenbush, Rensselaer county, *Peck*.

13 **Crataegus Macauleyae** Sargent, Proc. Rochester Acad. 4: 130.
1903 Miss Macauley's thorn

Known only from near Rochester and at Chapin, Ontario
county.

14 **Crataegus lucorum** Sargent, Bot. Gaz. 31: 227. 1901
Grove thorn

C. steubenensis Sarg. N. Y. State Mus. Bul. 122: 103. 1908

Near Coopers Plains, Steuben county, *Peck*.

15 **Crataegus roanensis** Ashe, Bul. N. Car. Agr. Col. 175: 114.
1900 Roan Mountain thorn

C. fluviatilis Sargent, *Rhodora* 5: 117. 1903

C. ascendens Sarg. l.c. 141

C. spatifolia Sargent, N. Y. State Mus. Bul. 122: 98. 1908

C. fucata Sargent, l.c. 99

C. nescia Sargent, l.c. 100

A species of the southern Appalachian region extending northward
in New York to Thompson's lake, Albany county and to Coopers
Plains, Steuben county.

16 **Crataegus macrosperma** Ashe, Jour. E. Mitch. Sci. Soc. 16:
73. 1900 Variable thorn

C. bella Sarg. N. Y. State Mus. Bul. 122: 61. 1908

C. Claytoniana Sarg., l.c. 120

C. floridula Sarg., l.c. 126

C. gracilipes Sarg., l.c. 119

C. ignea Sarg., l.c. 96

C. insignata Sarg., l.c. 101

- C. leptopoda* Sarg., l.c. 118
C. puberis Sarg., l.c. 73
C. spissa Sarg., l.c. 122
C. suavis Sarg., l.c. 59
C. mellita Sarg. N. Y. State Mus. Bul. 105: 58. 1906
C. Kneiskerniana Sarg. N. Y. State Mus. Bul. 167: 116. 1913
C. Paineana Sarg., l.c. 97
C. Proctoriana Sarg., l.c. 110
C. benigna Sarg. Proc. Rochester Acad. 4: 127. 1903
C. colorata Sarg., l.c. 123
C. ornata Sarg., l.c. 120
C. parviflora Sarg., l.c. 117
C. rubicunda Sarg., l.c. 121
C. Streeterae Sarg., l.c. 119
C. tenuiloba Sarg., l.c. 122
C. tenella Ashe, Ann. Carneg. Mus. 1³: 338. 1902
C. contigua Sarg. Rhodora 5: 115. 1903
C. delucida Sarg., l.c. 130
C. glaucophylla Sarg., l.c. 140

A common species on hillsides, in fields and thickets and along streams, but recorded from only a few localities in the Adirondack region.

North Elba, Piseco, Westport, Sandlake, Albany, Coleman's Station, Moore's Mills, Dykemans, North Greenbush, Menands, Herkimer, Little Falls, Frankfort, Utica, Oneida, Syracuse, Rochester, LaSalle, Penfield, Belfast, Coopers Plains, Corning, Hemlock lake, Ithaca, Chapin, Salamanca, Murray, Hermitage, Cattaraugus creek, Silver Springs, Portage, Castile, Canadice lake, Buffalo, Lenox, Madison county, Clayton.

Var. *demissa* (Sarg.) Eggl. Rhodora 10: 80. 1908

C. demissa Sarg. Rhodora 5: 139. 1903

Known from: Albany, Gansevoort, Ithaca, Chapin, Ontario county and Tuscarora.

Var. *matura* (Sarg.) Eggl. Rhodora 10: 80. 1908

C. matura Sarg. Rhodora 3: 24. in part. 1901; 5: 114. 1903

C. acuminata Sarg. N. Y. State Mus. Bul. 105: 56. 1906

C. Boothiana Sarg., l.c. 122: 58. 1908

C. recta Sarg., l.c. 97

Known from: Albany, Moore's Mills, Dykemans, North Creek, Gansevoort, Herkimer, Lewis Point on Oneida lake, Lake Pleasant, Rochester, Chapin, Olean, Belfast, Monroe, Filmore, Almond, Tuscarora, Coopers Plains and Hemlock lake.

Var. *pastorum* (Sarg.) Eggl. Rhodora 10: 80. 1908

C. pastorum Sarg. Rhodora 3: 24. 1901

C. genialis Sarg. Rhodora 5: 148. 1903

Known from: Albany, Gansevoort, Menands, Little Falls, Belfast, Coopers Plains and Buffalo.

Var. *pentandra* (Sarg.) Eggl. Rhodora 10: 80. 1908

C. pentandra Sarg. Rhodora 3: 25. 1901

Known from: North Greenbush, Rensselaer, Wells, Piseco, Albany, Pawling and Moore's Mills.

Crataegus macrosperma × *pruinosa* Eggleston, N. Y. State Mus. Bul. 243-244: 64. 1923

C. implicata Sarg. N. Y. State Mus. Bul. 122: 49. 1908

C. dissociabilis Sarg. l.c. 95

Near Buffalo, *Peck*. Coopers Plains, *Cornell*.

Crateaeuus macrosperma × *punctata* Eggleston, l.c.

C. Harryi Sarg. N. Y. State Mus. Bul. 122: 124. 1908

Richmond, Ontario county and at Canadice lake and Honeoye lake.

17 *Crataegus Grayana* Eggleston, Rhodora 10: 80. 1908

Asa Gray's thorn

C. flabellata Sarg. Rhodora 3: 75. 1901. Not *C. flabellata* (Bosc.) K. Koch

In fields. Northern New York. Infrequent.

Crown Point, *Peck*. Rossie, St Lawrence county, *Peck*. Morris-town and DeKalb, *Mrs O. P. Phelps*.

18 *Crataegus basilica* Beadle, Biltmore Bot. Stud. 2: 125. 1902

Royal thorn, Edson's thorn

C. alnorum Sarg. Rhodora 5: 153. 1903

C. Edsoni Sarg. Rhodora 7: 205. 1905

C. luminosa Sarg. N. Y. State Mus. Bul. 122: 63. 1908

Rocky woods. Infrequent across the northern part of the State, and at Buffalo.

Lansingburg, *Peck*. Round Lake, *Peck*. DeKalb, St Lawrence county, *Mrs O. P. Phelps*. Buffalo, *Peck*.

19 *Crataegus populnea* Ashe, Ann. Carneg. Mus. 1: 395. 1902

Gruber's thorn

C. stolonifera Sarg. Bot. Gaz. 35: 109. 1903

A western species, found at Tuscarora, Livingston county.

Pruinosae Sargent

20 *Crataegus pruinosa* (Wendl.) K. Koch, Hort. Dend. 168. 1853

Waxy-fruited thorn

C. populifolia Ell. Bot. S. C. & Ga. 1: 553. 1821. Not Walt.

Mespilus pruinosa Wendl. Flora 6: 700. 1823

C. arcana Beadle, Biltmore Bot. Stud. 1: 122. 1902

C. Lennoniana Sarg. Proc. Rochester Acad. 4: 98. 1903

C. Howeana Sarg. N. Y. State Mus. Bul. 105: 52. 1906

C. casta Sarg., l.c. 53

C. amoena Sarg. N. Y. State Mus. Bul. 122: 38, 86. 1908

C. bronxensis Sarg., l.c. 122, 115

C. Livingstoniana Sarg., l.c. 116, 122

C. macera Sarg., l.c. 117

C. oblita Sarg., l.c. 40.

C. pellecta Sarg., l.c. 85

C. prominens Sarg. Ont. Nat. Sci. Bul. 4: 23. 1908

C. aristata Sarg. N. Y. State Mus. Bul. 150: 27. 1911

C. Eastmaniana Sarg. N. Y. State Mus. Bul. 167: 77. 1913

- C. obstipa* Sarg., l.c. 80
C. pelacris Sarg., l.c. 85
C. scitula Sarg., l.c. 84

Rocky open woods, thickets and on hillsides. Common across the State outside of the Adirondack region.

Westport, Crown Point, Rossie, Albany, Lansingburg, North Greenbush, Moore's Mills, Bronx Park, New York City, Syracuse, Rochester, Hemlock lake, Staatsburg, Menands, Coopers Plains, Olean, Salamanca, Adams Basin, Murray, Chapin, Belfast, Painted Post, Buffalo, Niagara Falls.

Var. *conjuncta* (Sarg.) Eggl. *Rhodora* 10: 81. 1908

- C. conjuncta* Sarg. *Rhodora* 5: 57. 1903
C. formosa Sarg. Proc. Rochester Acad. 4: 101. 1903
C. rubro-lutea Sarg. N. Y. State Mus. Bul. 122: 88. 1908
C. russata Sarg. N. Y. State Mus. Bul. 167: 85. 1913

Known from: Albany, North Greenbush, Rochester, Buffalo, Coopers Plains, Painted Post, Niagara Falls, Murray, Salamanca.

Var. *dissona* (Sarg.) Eggl. *Rhodora* 10: 81. 1908

- C. dissona* Sarg. *Rhodora* 5: 60. 1903
C. acerba Sarg. N. Y. State Mus. Bul. 122: 93. 1908
C. plana Sarg., l.c. 45
C. radiata Sarg., l.c. 42
C. procera Sarg. Trees & Shrubs 2: 71, 133. 1908

Known from: Albany, Coleman's Station, Dykeman's, Moore's Mills, Belfast, Olean, Castile, Coopers Plains, Buffalo, Almond, Hemlock lake.

Var. *latisepala* (Ashe) Eggl. *Rhodora* 10: 81. 1908

- C. latisepala* Ashe, N. Car. Agr. Col. Bul. 175: 109. 1900
C. cognata Sarg. *Rhodora* 5: 58. 1903

Known from: Dykeman's, Hemlock lake, Tuscarora, Chapin, Castile, Buffalo, Niagara Falls.

***Crataegus pruinosa* x *straminea* Eggleston**

- C. brevipes* Peck, N. Y. State Mus. Bul. 139: 20. 1910
 Corning, Peck.

***Crataegus pruinosa* x *punctata* Eggleston, N. Y. State Mus. Bul. 243-244: 64. 1923**

- C. hudsonica* Sarg. Man. 457. f. 373. 1905

Albany and Greenbush, Rensselaer, Peck.

21 ***Crataegus rugosa* Ashe, Jour. E. Mitch. Sci. Soc. 17¹: 5. 1900**
 Fretz's thorn

- C. deltoides* Ashe, l.c. 17²: 19. 1900
C. rustica Beadle, Biltmore Bot. Stud. 1: 122. 1902

A southern species found at Moore's Mills, Dutchess county, Eggleston.

- 22 *Crataegus filipes* Ashe, Jour. E. Mitch. Sci. Soc. 19¹: 18. 1903
Miss Beckwith's thorn

C. opulens Sarg. Proc. Rochester Acad. 4: 104. 1903
C. Beckwithae Sarg., l.c. 124
C. sequax Ashe, Jour. E. Mitch. Sci. Soc. 20²: 50. 1904
C. Robbinsiana Sarg. Rhodora 7: 197. 1905
C. silvicola var. *Beckwithae* Eggl. Rhodora 10: 81. 1908
C. inusitula Sarg. N. Y. State Mus. Bul. 122: 55. 1908

In thickets and on hillsides. Infrequent across the State from Albany county westward and southward.

Albany, Ithaca, Herkimer, Rochester, Coopers Plains, Hemlock lake, Brighton, Belfast, Chapin, Buffalo.

- 23 *Crataegus beata* Sarg. Proc. Rochester Acad. 4: 97. 1903
Dunbar's thorn

C. macrocalyx Sarg. N. Y. State Mus. Bul. 122: 89. 1908

In thickets, open woods and on hillsides in western New York.

Ithaca, Chapin, Hemlock lake, Canadice lake, Belfast, Portage, Castile, Rochester, Greece, Coopers Plains.

Var. *compta* (Sarg.) Eggl. Rhodora 10: 81. 1908

C. compta Sarg. Proc. Rochester Acad. 4: 102. 1903
C. diffusa Sarg., l.c. 103
C. congestiflora Sarg. N. Y. State Mus. Bul. 122: 24. 1908
C. pulchra Sarg., l.c. 42
C. Barryana Sarg., l.c. 52, 93
C. cruda Sarg., l.c. 54
C. foliata Sarg., l.c. 53
C. placida Sarg., l.c. 46
C. Slavinii Sarg., l.c. 57
C. promissa Sarg., l.c. 50
C. ovatifolia Sarg., l.c. 92
C. strigosa Sarg., l.c. 51
C. tortuosa Sarg., l.c. 47
C. uncta Sarg., l.c. 91
C. xanthophylla Sarg., l.c. 48
C. exornata Sarg. Ont. Nat. Sci. Bul. 4: 31. 1908

In thickets and on hillsides. Herkimer and Tompkins counties westward and southward.

Herkimer, Utica, Ithaca, Hemlock lake, Brighton, Palmyra, Fillmore, Rush, Avon, Chapin, Belfast, Rochester, Castile, Olean, Almond, Salamanca, Corning, Painted Post, Coopers Plains, Buffalo, Niagara Falls.

- 24 *Crataegus leiophylla* Sarg. Proc. Rochester Acad. 4: 99. 1903
Smooth thorn

C. longipedunculata Sarg. Ont. Nat. Sci. Bul. 4: 26. 1908
C. gracilis Sarg. N. Y. State Mus. Bul. 122: 37. 1908
C. ramosa Sarg., l.c. 86

In thickets, on hillsides and banks of streams and lakes, western New York.

Canandaigua, Ithaca, Portageville, Coopers Plains, Rochester, Belfast, Tuscarora, Buffalo, Niagara Falls.

Var. **Maineana** (Sarg.) Eggl. *Rhodora* 10: 81. 1908

Maine's thorn

C. Maineana Sarg. Proc. Rochester Acad. 4: 106. 1903

C. aridula Sarg. N. Y. State Mus. Bul. 122: 43. 1908

Buffalo, Belfast, Portageville, Hemlock lake, Niagara Falls, Rochester.

25 **Crataegus Jesupi** Sarg. *Rhodora* 5: 61. 1903

Jesup's thorn

C. numerosa Sarg. N. Y. State Mus. Bul. 122: 90. 1908

C. nemorosa Sarg., l.c. 150: 28. 1911

C. incisa Sarg.

Widely distributed across the State, but rarely collected.

Rossie, St Lawrence county; Hemlock lake, Painted Post and Coopers Plains, *Peck*.

Coccineae Loudon

26 **Crataegus Holmesiana** Ashe, Jour. E. Mitch. Sci. Soc. 16²:

78. 1900

Thin-leaved or Holm's thorn

C. tenuifolia Britton, Bul. N. Y. Bot. Gard. 1: 448. 1900

C. Holmesiana var. *villipes* Ashe, l.c. 17²: 11. 1901

C. villipes Ashe, Ann. Carneg. Mus. 1: 388. 1902

C. tardipes Sarg. Ont. Nat. Sci. Bul. 4: 51. 1908

Along streams, on hillsides and in thickets. Frequent from Albany, Ulster, Herkimer and St Lawrence counties westward and southward.

Albany, Phoenicia, Little Falls, Ithaca, Utica, Oriskany, Elmira, Syracuse, Ogdensburg, Canton, Hemlock lake, Rochester, Belfast, Castile, Buffalo, Salamanca, Corning.

27 **Crataegus anomala** Sargent, *Rhodora* 3: 74. 1901

Oblong-leaved thorn

C. oblongifolia Sarg. N. Y. State Mus. Bul. 105: 60. 1906. Not K. Koch

C. urbica Sarg., l.c. 167: 105. 1913

Infrequent or rare across the northern part of the State, southward to Albany county.

Fort Ann, Crown Point, Menands, *Peck*. DeKalb, St Lawrence county, *Mrs O. P. Phelps*.

28 **Crataegus coccinioides** Ashe, Jour. E. Mitch. Sci. Soc. 16²:

74. 1900

Eggert's thorn

C. Eggertii Britton, Bul. N. Y. Bot. Gard. 1: 447. 1900

A southern and western species represented in this State by:

Var. *dilatata* (Sarg.) Eggl. *Rhodora* 10: 81. 1908

C. dilatata Sarg. Bot. Gaz. 31: 9; 1901

C. durobrivensis Sarg. Trees & Shrubs 1: 3. t. 2. 1902

C. conspecta Sarg. Ont. Nat. Sci. Bul. 4: 28. 1908

Extending northward to Albany, Saratoga, Monroe and Niagara counties.

Albany, Gansevoort, Thompson's lake, Canandaigua, Ithaca, Rochester, Hemlock lake. Portage, Buffalo, Niagara Falls, Salamanca.

29 *Crataegus Pringlei* Sargent, *Rhodora* 3: 21. 1901

Pringle's thorn

Rocky hillsides, banks and thickets. Infrequent across the State northward, southward to Putnam county, westward to Monroe and Livingston county.

Waddington, St Lawrence county, Crown Point, Rochester, Coleman's Station, Fort Ann, Herkimer, Little Falls, Oriskany, Marcy, Chapin, Hemlock lake.

Var. *exclusa* (Sarg.) Eggl. *Rhodora* 10: 82. 1908

C. exclusa Sarg. *Rhodora* 5: 108. 1903

Known from: Watervliet, Albany, Greenbush, Delanson and Chapin.

Var. *lobulata* (Sarg.) Eggl. *Rhodora* 10: 82. 1908

C. lobulata Sarg. *Rhodora* 3: 22. 1901

Known from: Menands, Sandlake, Crown Point.

30 *Crataegus coccinea* L. Sp. Pl. 476. 1753

Scarlet thorn, red haw

C. pedicillata Sarg. Bot. Gaz. 31: 226. 1901

C. Habereri Sarg. N. Y. State Mus. Bul. 116: 21. 1907

C. limosa Sarg., l.c. 122: 67. 1908

C. gloriosa Sarg., l.c. 70

C. perspicabilis Sarg., l.c. 167: 90. 1913

C.uticaensis Sarg., l.c. 99

C. Gilbertiana Sarg., l.c. 101

C. perrara Sarg., l.c. 103

On hillsides, in thickets and along streams and in open woods and fields. Common across the State outside of and chiefly south of the Adirondacks.

Warren, New Hartford, Little Falls, Utica, Hemlock lake, Syracuse, Rochester, Honeoye lake, Chapin, Ontario county, Salamanca, East Aurora, Buffalo.

Var. *Ellwangeriana* (Sarg.) Eggl., in Deam, Trees of Indiana 212. 1921

C. Ellwangeriana Sarg. Bot. Gaz. 33: 118. 1902

C. Fulleriana Sarg. Proc. Rochester Acad. 4: 111. 1903

C. Robesoniana Sarg., l.c. 110 (*C. Robesonana* Sarg. 1913)

- C. spissiflora* Sarg., l.c. 112
C. sejuncta Sarg. N. Y. State Mus. Bul. 105: 62. 1906
C. vivida Sarg. Ont. Nat. Sci. Bul. 4: 47. 1908
C. radians Sarg. N. Y. State Mus. Bul. 122: 64. 1908
C. pedicillata var. *Ellwangeriana* Eggl. Rhodora 10: 82. 1908

Albany, Menands, Thompson's lake, Little Falls, Utica, Lenox, Madison county, Ogdensburg, Ithaca, Hemlock lake, Chapin, Canandaigua, Portage, Salamanca, Portageville, Rush, Rochester, Letchworth Park, Buffalo, Cattaraugus creek.

Crataegus coccinea x *macrosperma* Eggleston, N. Y. State Mus. Bul. 243-244: 65. 1923

- C. Hadleyana* Sarg. N. Y. State Mus. Bul. 167: 93. 1913
C. Maribella Sarg., l.c.

Herkimer and Little Falls, *Haberer*.

Crataegus coccinea x *pruinosa* Eggleston, l.c.

- C. pallescens* Sarg. N. Y. State Mus. Bul. 167: 81. 1913
C. seclusa Sarg., l.c. 89
C. latiflora Sarg., l.c. 83
C. iterata Sarg. Jour. Arnold Arb. 4: 102. 1923

Ogdensburg, *Dunbar*; Richmond and Hemlock lake, Livingston county, *Brown*.

31 *Crataegus albicans* Ashe, Jour. E. Mitch. Soc. 17²: 20. 1901
 Letchworth thorn

- C. pollita* Sarg. Rhodora 5: 111. 1903
C. acclivis Sarg. Proc. Rochester Acad. 4: 115. 1903
C. Dayana Sarg. N. Y. State Mus. Bul. 122: 66. 1908
C. Letchworthiana Sarg., l.c. 68

Rensselaer county westward to St Lawrence county, Lake Erie and southward. Not reported from the coastal plain.

Sandlake, Albany, Menands, Little Falls, Herkimer, Utica, Wadlington, St Lawrence county; Ithaca, Oneida lake; Chapin, Rochester, Hemlock lake, Belfast, Letchworth Park, Rush, Buffalo, Niagara Falls, Cattaraugus creek.

32 *Crataegus Arnoldiana* Sarg. Bot. Gaz. 31: 221. 1901
 Arnold's thorn

Native of eastern Massachusetts to Connecticut. Also at Wading River, Long Island, *E. S. Miller*.

33 *Crataegus submollis* Sarg. Bot. Gaz. 31: 7. 1901
 Emerson's thorn

- C. tomentosa* Emerson, Trees & Shrubs Mass. 430. 1846. Not L.
C. champlainensis Sarg. Rhodora 3: 20. 1901
C. Tatnalliana Sarg. Bot. Gaz. 35: 106. 1903
C. contortifolia Sarg. N. Y. State Mus. Bul. 105: 59. 1906
C. Huntiana Sarg. N. Y. State Mus. Bul. 167: 105. 1913

Rocky hillsides, thickets and along streams. Locally frequent across the northern part of the State south to Albany county, west to southern Herkimer county and west to Livingston county.

DeKalb and Brasher, St Lawrence county; Ogdensburg, Crown Point, Port Henry, Menands, Albany, North Greenbush, between Jordanville and Mud lake, southern Herkimer county; Chapin, Ontario county; Hemlock lake, Livingston county.

Brainerdianae Eggleston

34 *Crataegus Brainerdi* Sargent, *Rhodora* 3: 27. 1901
Brainerd's thorn

- C. Laneyi* Sarg. Trees & Shrubs 1: 5. t. 3. 1902
- C. cupulifera* Sarg. Proc. Rochester Acad. 4: 129. 1903
- C. Eatoniana* Sarg. N. Y. State Mus. Bul. 105: 51. 1906
- C. rubrocarnea* Sarg., l.c. 55
- C. ambrosia* Sarg., l.c. 69
- C. brachyloba* Sarg., l.c. 122: 75. 1908
- C. repulsans* Sarg., l.c. 107
- C. spinifera* Sarg., l.c. 111
- C. fallsiana* Sarg., l.c. 167: 113. 1913
- C. misella* Sarg., l.c. 115

On moist hillsides, rocky slopes, thickets, fields and along streams. Frequent across the State outside of the higher Adirondacks, but not recorded from the lower Hudson valley nor from the Catskill and Susquehanna regions.

Rossie, St Lawrence county; Albany, Menands, Little Falls, Herkimer, Canandaigua, Hemlock lake, Rochester, Chapin, Corning, Belfast, Buffalo.

Var. *asperifolia* (Sarg.) Eggl. *Rhodora* 10: 82. 1908

- C. asperifolia* Sarg. *Rhodora* 3: 31. 1901
- C. singularis* Sarg. N. Y. State Mus. Bul. 122: 106. 1908; 167: 116. 1913

Known from Albany, Menands, Little Falls, Coopers Plains and Buffalo.

Var. *Egglestoni* (Sarg.) Robinson, *Rhodora* 10: 82. 1908

- C. Egglestoni* Sarg. *Rhodora* 3: 30. 1901; N. Y. State Mus. Bul. 75: 12, 55. 1904
- C. Dunbari* Sarg. Proc. Rochester Acad. 4: 126. 1903
- C. hystricina* Sarg. Bot. Gaz. 35: 433. 1903
- C. affinis* Sarg. Ont. Nat. Sci. Bul. 4: 71. 1908
- C. conferta* Sarg. N. Y. State Mus. Bul. 122: 62. 1908

Known from Elizabethtown, Piseco, Crown Point, Albany, Thompson's lake, Ithaca, Rochester, Hemlock lake, Adams Basin, Salamanca, Buffalo.

Var. *scabrida* (Sarg.) Eggl. *Rhodora* 10: 82. 1908

- C. scabrida* Sarg. *Rhodora* 3: 29. 1901
- C. Deweyana* Sarg. Proc. Rochester Acad. 4: 133. 1903
- C. Balkwillii* Sarg., Ont. Nat. Sci. Bul. 4: 80. 1908
- C. inopinata* Sarg. N. Y. State Mus. Bul. 122: 108. 1908

Known from Albany, Lansingburg, Fort Ann, Little Falls, Utica, Mohawk, New Hartford, Chapin, Ithaca, Rochester, Hemlock lake, Rush, Portage, Castile, Silver Springs, Belfast, Coopers Plains.

Crataegus Brainerdi var. *Egglestoni* x *succulenta* Eggleston, N. Y. State Mus. Bul. 243-244: 65. 1923

C. Peckietta Sarg. *Rhodora* 7: 174. 1905

Piseco, Hamilton county, *Peck*. Lake Pleasant, *Peck*. Keene, Essex county and Horicon, Warren county, *Peck*.

Macracanthae Loudon

35 *Crataegus succulenta* Schrader, Link, Handb. 2: 78. 1831—
Sarg. Silva N. Am. 13: 139. t. 131. 1902 Long-spined thorn

C. glandulosa var. *macracantha* Lindl. Bot. Reg. 22: pl. 1912. 1836

C. macracantha var. *minor* Lodd.; Loud. Arb. Brit. 2: 819. 1838

C. Halliana Sarg. N. Y. State Mus. Bul. 105: 73. 1906

C. conspicua Sarg., l.c. 74

C. admiranda Sarg., l.c. 122: 80. 1908

C. simulans Sarg., l.c. 125

C. truculenta Sarg. l.c. 167: 118. 1913

C. sommenbergensis Sarg., l.c. 120

C. macracantha var. *succulenta* Eggl. *Rhodora* 10: 82. 1908

In thickets, fields, hillsides and along streams. Locally common, Albany and Rensselaer counties to St Lawrence county, westward and southward, but not reported from the lower Hudson valley nor from the coastal region.

North Greenbush, Albany, Albia, Schoharie, Rossie, St Lawrence county, Canandaigua, Menands, Chapin, Palmyra, Rochester, Belfast, Salamanca, Buffalo, Niagara Falls.

Var. *macracantha* (Lodd.) Eggl., N. Y. State Mus. Bul. 243-244: 65. 1923

C. macracantha Lodd. in Loud. Arb. Brit. 2: 819. 1838

C. macracantha Koehne, Deutsche Dend. 236. 1893

C. ferentaria Sarg. Proc. Rochester Acad. 4: 135. 1903

C. Beckiana Sarg. N. Y. State Mus. Bul. 105: 75. 1906

C. microsperma Sarg. Ont. Nat. Sci. Bul. 4: 82. 1908

C. ogdensburgensis Sarg. N. Y. State Mus. Bul. 167: 125. 1913

Rossie, Ogdensburg, Fort Ann, Albia, Albany, New Paltz, Greenbush, Little Falls, Utica, Frankfort, Ithaca, Pecksport, Madison county; Canandaigua, Belfast, Rochester, Buffalo, Coopers Plains.

Var. *rhombifolia* (Sarg.) Eggl., l.c.

C. rhombifolia Sarg. *Rhodora* 5: 183. 1903

C. flagrans Sarg. N. Y. State Mus. Bul. 105: 71. 1906

C. venustula Sarg., l.c. 122: 79. 1908

C. macracantha var. *rhombifolia* Eggl. *Rhodora* 10: 82. 1908

Known from: North Greenbush, Whitehall, Thompson's lake, Albany county; Albany and Buffalo, Crown Point.

36 *Crataegus neofluviialis* Ashe, Jour. E. Mitch. Sci. Soc. 16²: 71. 1900
New river thorn

- C. michiganensis* Ashe, N. Car. Agr. Col. Bul. 175: 111. 1900
C. gemmosa Sarg. Bot. Gaz. 33: 119. 1902
C. pisifera Sarg. Rhodora 7: 163. 1905
C. frutescens Sarg. N. Y. State Mus. Bul. 122: 113. 1908
C. finitima Sarg., l.c. 78
C. cfferata Sarg., l.c. 128
C. honeoyensis Sarg., l.c. 129
C. spinea Sarg., l.c. 167: 122. 1913
C. macracantha var. *neofluvialis* Eggl. Rhodora 10: 83. 1908

In thickets, rich hillsides and along streams. Locally frequent from Albany county to St Lawrence county, westward and southward, but not reported from the lower Hudson valley or the coastal region.

Albany, Menands, Ogdensburg, Waddington, St Lawrence county; Canandaigua, Ithaca, Utica, Hemlock lake, Belfast, Tuscarora, Niagara Falls, Coopers Plains, Rochester, Honeoye lake and Campbell.

37 *Crataegus calpodendron* (Ehrh.) Medic. Geschichte Bot. 83.
1793 Pear thorn, pear or red haw

- Mespilus calpodendron* Ehrh. Beitr. 2: 67. 1788
C. crus-galli Mill. Gard. Dict. ed. 8, No. 5, 1768. Not L.
C. tomentosa DuRoi, Harbk. Baumz. ed. 1, 183. 1771. Not L.
C. Chapmani Ashe, Bot. Gaz. 28: 270. 1899
C. strutilis Ashe, Jour. E. Mitch. Sci. Soc. 19¹: 12. 1903
C. Calvinii Sarg. N. Y. State Mus. Bul. 122: 81. 1908
C. diversa Sarg., l.c. 109
C. comans Sarg., l.c. 112
C. Chapmani var. *Plukenetii* Eggl. Rhodora 10: 83. 1908

Long mistaken for *C. tomentosa* L., and is the *C. tomentosa* of the Linnaean herbarium, in part; and of most subsequent authors.

In thickets, fields and on hillsides and shores. Locally common from Tioga and Tompkins counties westward and southward.

Elmira, Ithaca, Chapin, Hemlock lake, Canadice, Coopers Plains, Geneseo, Buffalo, Salamanca, Canandaigua, Rochester, Nichols, Tioga county.

The Watervliet specimens, in Arnold Arboretum herbarium, Jesup herbarium, Dartmouth College and in the herbarium of the Brooklyn Academy of Arts and Sciences, collected by Dr Henry G. Jesup in 1869, and which have been referred to this species, are typical *Crataegus punctata* Jacq. *C. calpodendron* is not known east of Ithaca.

- Crataegus calpodendron* x *punctata* Eggleston, N. Y. State Mus. Bul. 243-244: 65. 1923
C. celsa Sarg. N. Y. State Mus. Bul. 122: 31. 1908

Niagara Falls, *Horsey*, *Peck*.

38 *Crataegus prunifolia* (of European gardens), not Pers. Syn. 2: 37. 1806

Flowering specimens in the herbarium of the Torrey Botanical

Club, from College Point, in 1884, appear to be this species. It has been recently collected at Kinkora, N. J., by *Bayard Long*.

Additional species to be looked for in New York.

Crataegus Jackii Sarg. *Rhodora* 5: 162. 1903 (Rotundifoliae)

Known from near Montreal and in southern Ontario, has recently been reported from Canton, St Lawrence county by *Mrs O. P. Phelps*.

Crataegus Margaretta Ashe, Jour. E. Mitch. Sci. Soc. 16²: 72. 1900

Southern Ontario.

Crataegus mollis (T. & G.) Scheele, *Linnaea* 21: 569. 1848

Southern Ontario.

Crataegus phaenopyrum (L.f.) Medic. *Geschichte Bot.* 83. 1793

Native from Virginia to Georgia, Illinois and Arkansas. Naturalized northward to Pennsylvania and New Jersey and frequent in cultivation in southern New York, where it may be expected to occur as an escape.

Family 54 **AMYGDALACEAE** Reichenb. *Consp.* 177. 1828

(Drupaceae L.)

Peach family

PRUNUS (Tourn.) L. *Sp. Pl.* 473. 1753

Section *Prunophora*

Cerasus (Tourn.) Mill. *Gard. Dict.* 4th abr. Ed. 1754

1 **Prunus americana** Marsh. *Arb. Am.* III. 1785

Wild yellow or red plum

P. latifolia Moench, Verz. Ausl. Baume, 85. 1785

Cerasus americana H. & A. *Comp. Bot. Mag.* 5: 24. 1835

In woods and thickets and on hillsides. Common or locally abundant across the State, outside of and chiefly south of the Adirondacks.

Forma *rosea* (Peck) House, N. Y. State Mus. Bul. 243-244: 17. 1923 (var. *rosea* Peck, 47th Rep't N. Y. State Mus. 27. 1894), with pink or rosy petals, occurs at Meadowdale, Albany county and Westport, Essex county.

x **Prunus Dunbari** Rehder, (Jour. Arnold Arb. 3: 18. 1921), a natural hybrid between *P. americana* and *P. maritima*, is reported to have appeared spontaneously in Genesee Valley Park, Rochester.

2 **Prunus nigra** Ait. *Hort. Kew.* 2: 165. 1789

Canada plum, horse plum

P. mollis Torr. *Fl. N. & Mid. U. S.* 1: 470. 1824

In hilly or mountainous sections of the State. Common northward in open woods, fields and thickets. Frequent in the Adirondacks up to 2000 feet altitude. Less frequent southward to the higher hills of Dutchess county, the Hudson highlands, Ulster and Otsego counties and locally westward across the State.

Prunus hortulana Bailey, Gard. & For. 5: 90. 1892. Native of the central Mississippi valley, known as the goose plum, includes the wayland group of cultivated plums, some of which may be looked for as escapes from cultivation in this State.

Prunus Munsoniana Wight & Hedrick, in Plums of New York 88. 1911. Native of the lower Mississippi valley, includes a number of well known cultivated varieties of plum in New York, none of which has been reported as an escape.

Prunus angustifolia Marsh. Arb. Am. III. 1785. Native from Delaware southward and westward, likewise includes a few varieties of plum which are cultivated in this State.

3 *Prunus alleghaniensis* Porter, Bot. Gaz. 5: 85. 1877

Alleghany plum

Known only from a few scattered colonies in Connecticut, Pennsylvania and Michigan. It has not been reported from New York, but should be looked for in the southern portion.

4 *Prunus maritima* Marsh. Arb. Am. 112. 1785

Beach or sand Plum

P. pygmaea Willd. Berl. Baumz. 248. 1796

P. acuminata Michx. Fl. Bor. Am. 1: 284. 1803

P. sphaerocarpa Michx., l.c.

P. sphaerica Willd. Berl. Baumz. Aug. 2: 315. 1811

P. pubescens Pursh, Fl. Am. Sept. 231. 1814

P. littoralis Bigel. Fl. Bost. ed. 2, 193. 1824

In sandy soil and on sea beaches on Long Island and Staten Island. Not common, although apparently so in early colonial times.

The name *Prunus maritima* appears in Wengenheim's Beytrag, p. 103. 1787; not in his Beschr. Nordam. Holz- und Buscharten, 1781, as often cited. Hence the species should be credited to Marshall.

5 *Prunus domestica* L. Sp. Pl. 473. 1753

Garden plum

Occasional as an escape from cultivation or long persistent in old yards, etc.

Linnaeus divided *P. domestica* into 14 subdivisions; Seringe (1825) made 8 divisions of this species; in both cases including varieties now places in *P. cerasifera* (cherry plums) and *P. insititia* (the damson and bullaces).

Bailey (Cycl. Am. Hort. 1447. 1901), regards *P. domestica* as derived from *P. spinosa*, and *P. insititia* an intermediate between the two, but Hedrick (Plums of N. Y. 15) indicates that none of the "domestica" plums revert to *P. spinosa*. The species was originally native of the Caucasus mountains and the Caspian region.

The reine claudie or green gage plums represent one of the oldest known and most distinct group of horticultural varieties of the species *domestica*, and was designated by Linnaeus as *P. domestica creola* (l.c.). (*P. Claudiana* Poir. in Lam. Encyc. 5: 677. 1804; *P. italica* Borkh. Handb. Forstbot. 2: 1409. 1803).

The prunes (plum prunes) were designated by Linnaeus as *P. domestica galatensis*, and the yellow egg plums as *P. domestica perniconia*.

6 *Prunus insititia* L. Amoen. Acad. 4: 273. 1755

Damson or bullace plums

? *P. domestica damascena* L., l.c. 1753

P. subsylvestris & *P. pomarium* Boutigny, Bul. Soc. Dauph. fasc. VIII. 1881

P. domestica insititia Schneider, Handb. Laubh. 1: 630. 1892

P. syriaca Koehne, Dendrol. 316. 1893 (yellow-fruited Mirabelle)

Along roadsides and in waste grounds or neglected yards, where long persistent after cultivation. Occasional as an escape or naturalized shrub in the Hudson valley and perhaps elsewhere.

Native of southern and southeastern Europe and adjacent Asia, and now established throughout most of Europe.

7 *Prunus spinosa* L. Sp. Pl. 475. 1753

Blackthorn, European sloe

Infrequent as an escape or naturalized shrub in eastern and southern New York. Native of Europe. Hedrick in Plums of New York describes briefly the subspecies or varieties recognized by European botanists:

Prunus cerasifera Ehrh. Beitr. 4: 17. 1789

Cherry plums

P. domestica myrobalan L. Sp. Pl. 475. 1753

P. myrobalan Loisl. Nouv. Duham. 5: 184. 1812

P. divaricata Ledeb. Ind. Hort. Dorp. Suppl. 6. 1824

Native of western Asia and the Caucasus region. Frequent in cultivation.

Prunus triflora Roxb. Hort. Beng. 38. 1814

Japanese plums

P. domestica Maxim. Mel. Biol. 11: 678. 1883

P. hattan Tamari; Bailey, Ann. Hort. 30. 1889

P. japonica of horticulture (not Thunb.)

Native of China and occasional or locally frequent in cultivation.

8 *Prunus pumila* L. Mant. 1: 75. 1767

Sand or dwarf cherry

Cerasus canadensis Mill. Gard. Dict. ed. 8, 1768

P. declinata Marsh. Arb. Am. 112. 1785

C. glauca Moench, Meth. 692. 1794

On sand dunes, sandy shores and fields of the Great Lakes region. Uncommon.

Selkirk, Oswego county, *Fernald, Wiegand & Eames* (Rhodora 25: 72. 1923). Pulaski, Oswego county, *C. E. Jones* (N. Y. State Mus. Bul. 139: 35. 1910).

9 *Prunus depressa* Pursh, Fl. Am. Sept. 332. 1814

Dwarf cherry

Cerasus pumila Michx. Fl. Bor. Am. 1: 286. 1803

Prunus pumila Torr. Fl. N. Y. 1: 195. 1843

On sandy, gravelly or ledgy shores and exposed ridges. Rare.

Long Lake, Hamilton county, *Peck* (34th Rep't N. Y. State Mus. 1891, as *P. pumila*). Westchester county, rare, Taylor (Fl. Vic. N. Y. 1915, as *P. pumila*).

10 *Prunus susquehanae* Willd. Enum. Hort. Berol. 519. 1809
Appalachian cherry

? *P. rupestris* Raf. Am. Mo. Mag. 2: 206. 1818

P. cuneata Raf. Am. Nat. 11. 1820

P. pumila var. *cuneata* Bailey, Cyclop. Am. Hort. 1451. 1901

In wet or moist, sometimes dry sterile sandy or rocky soil. Infrequent or rare across the State south of the Adirondacks.

Common on the sandy plains between Albany and Schenectady, *Peck, House*. Hempstead plains, Long Island, *House*. Ausable Point, *Eggleston*. Penfield, Monroe county, *Booth* (Proc. Rochester Acad. 3: 60. 1896, as *P. pumila*). South Hill, Ithaca, *Dudley* (36th Rep't N. Y. State Mus. 37. 1884, as *P. pumila*).

11 *Prunus cerasus* L. Sp. Pl. 474. 1753 Sour cherry, egriot

P. austera & *P. acida* Ehrh. Beitr. 5: 160. 1700

C. vulgaris Mill. Gard. Dict. ed. 8, No. 1. 1768

In woods and thickets and along roadsides. A somewhat frequent escape from cultivation. Native of Europe.

Linnaeus designated the cherry with colorless juice as *P. cerasus caproniana* (*P. acida* Ehrh.), and the cherry with colored juice as *P. cerasus austera* (*P. austera* Ehrh.).

12 *Prunus avium* L. Fl. Suec. ed. 2, 165. 1755

Mazzard, wild or crab cherry, gean, sweet cherry

Cerasus nigra Mill., l.c. No. 2

P. nigricans & *P. varia* Ehrh. Beitr. 7: 126, 127. 1792

C. avium Moench, Meth. 692. 1794

In thickets and woodlands and often along roadsides. Escaped from cultivation. Native of Europe.

13 *Prunus pennsylvanica* L.f. Suppl. 252. 1781

Wild red cherry, bird cherry, pigeon cherry

Prunus-Cerasus montana Marsh. Arb. Am. 113. 1785

P. lanceolata Willd. Berl. Baumz. 240. 1796

Cerasus borealis Michx. Fl. Bor. Am. 1: 286. 1803

- P. persicifolia* Desf. Hist. Arb. 2: 205. 1809
C. pennsylvanica Lois. Nouv. Duham. 5: 9. 1812
P. borealis Pursh, Fl. Am. Sept. 331. 1814

In rocky or sandy woodlands and clearings. Common throughout most sections of the State north of the coastal region, especially on recently cleared or burned areas.

14 *Prunus mahaleb* L. Sp. Pl. 474. 1753

Mahaleb, perfumed cherry

- Cerasus mahaleb* Mill. Gard. Dict. ed. 6, No. 4. 1768
Padus mahaleb Borkh. Handb. Forstbot. 2: 1434. 1803

Roadsides and waste ground. Adventive or naturalized from Europe. Not common.

Section *Padus*

Padus (Tourn.) Mill. Gard. Dict. 4th Abr. ed. 1754

15 *Prunus virginiana* L. Sp. Pl. 473. 1753* Choke cherry

- Prunus nana* DuRoi, Harbk. Baumz. 12: 194. f. 4. 1772
Prunus-Cerasus canadensis Marsh. Arb. Am. 113. 1785
Padus oblonga Moench, Meth. 672. 1794
Padus nana Roemer, Arch. 12: 38. 1797
Padus virginiana M. Roem. Syn. Rosifl. 86. Not Mill.
Padus obovata & *P. canadensis* M. Roem., l.c. 86, 88.
Prunus obovata Bigel. Fl. Bost. Ed. 2, 192. 1824
Cerasus obovata Beck, Bot. 97. 1833

Along river banks and in sandy or rocky woods and thickets. Common or frequent in most sections of the State.

16 *Prunus serotina* Ehrh. Beitr. 3: 20. 1788. Wild black cherry

- Prunus virginiana* L. Sp. Pl. 473. 1753 (in part)
Padus virginiana Mill. Gard. Dict. ed. 8, No. 3. 1768
Prunus-Cerasus virginiana Marsh. l.c. 112
Cerasus virginiana Michx. Fl. Bor. Am. 1: 283. 1803

In woods and open places. Frequent or common in most sections of the State.

AMYGDALUS (Tourn.) L. Sp. Pl. 472. 1753

Amygdalus Persica L. l.c.

Peach

Common in cultivation across the State south of the Adirondacks, and occasionally escaped from cultivation or spontaneous in waste soil.

* Fernald (Rhodora 18: 140-141. 1916) would retain the Linnaean name "*virginianus*" for the choke cherry, by eliminating the references made by Linnaeus to Gronovius, Plukenet and Catesby, all three of which refer to the black cherry, *P. serotina* Ehrh. The application of this common sense procedure to other Linnaean names, *Quercus rubra*, *Populus balsamifera*, etc. is also highly desirable.

Family 55 **CASSIACEAE** Link, Handb. 2: 135. 1831
CAESALPINIACEAE Kl. & Garcke, Bot. Erg. Wald. 157. 1862
 Senna family

CERCIS L. Sp. Pl. 374. 1753

Siliquastrum (Tourn.) Adans. Fam. Pl. 2: 317. 1763

Cercis canadensis L., l.c. Red bud, American Judas tree

Siliquastrum canadense Medic. Vorles. Churpf. Phys. Ges. 2: 339. 1789

In rich soil. Apparently native only in the southeastern part of the State south of the Hudson highlands. Widely distributed as a cultivated species and occasionally escaped or established farther northward and westward in the State. *C. chinensis* Bunge, more common in cultivation, appears to be sometimes mistaken for *C. canadensis*.

CASSIA (Tourn.) L. Sp. Pl. 376. 1753

Sect. *Chamaesenna* Vogel

1 **Cassia marilandica** L., l.c. 378 Wild or American senna

In swamps and moist rich soil, often along streams. Occasional or locally abundant across the State from Rensselaer and Albany counties to Saratoga, Herkimer, Oneida, Madison, Wayne, Monroe and Erie counties. Increasingly frequent southward, except on the coastal plain.

Sect. *Lasiorrhema* Vogel

Chamaecrista Moench, Meth. 272. 1794

2 **Cassia nictitans** L., l.c. 380. Sensitive pea, wild sensitive plant

Chamaecrista nictitans Moench, l.c.

In dry or moist, usually sandy soil, or on sandy or gravelly shores. Common on Long Island and Staten Island, but less frequent or rare northward to Albany and Rensselaer counties, and westward to the Susquehanna river, Tioga county, *Fenno*.

3 **Cassia fasciculata** Michx. Fl. Bor. Am. 1: 262. 1803

Partridge pea, Large-flowered sensitive pea

Cassia Chamaecrista of N. Y. Reports, not L.

Chamaecrista fascicularis Greene, Pittonia 3: 242. 1897

Chamaecrista fasciculata Greene; Pollard, in Small, Fl. SE. U. S. 587. 1903

In dry, usually sandy or gravelly soil. Common on Long Island and Staten Island, and locally northward to Albany, *Beck*; Whites-

boro, Oneida county *Gates*, in Herb. Beck, and *Paine*, Cat. 75. 1865. Reported as formerly established at Rochester and at Buffalo.

GLEDITSIA L. Sp. Pl. 1056. 1753

Caesalpiniioides (L.) Kuntze, Rev. Gen. Pl. 166. 1891

Gleditsia triacanthos L., l.c. Honey locust, three-thorned acacia

G. spinosa Marsh, Arb. Am. 54. 1785

Caesalpiniioides triacanthum Kuntze, l.c.

Apparently native from the lake region of central and western New York, westward and southward. Extended by early planting and now well established in many sections of the State outside of the Adirondacks and Catskills.

GYMNOCLADUS Lam. Encycl. 1: 733. 1783

Gymnocladus dioica (L.) Koch, Dendrol. 1: 5. 1869

Kentucky coffee tree

Guilandina dioica L. Sp. Pl. 381. 1753

Gymnocladus canadensis Lam., l.c.

In rich woods and banks of streams and lakes, Onondaga county westward and southward. Increasing in abundance toward the southwest.

Lafayette, Onondaga county, *Rust*, (Torr. Club. Bul. 9: 32. 1882). Ithaca, *Sartwell* (*Paine*, Cat. Pl. Oneida Co. 75. 1865). Ludlowville, Tompkins county, *H. B. Lord* (Clinton, 19th Rep't Regents 77. 1866). Seneca lake near mouth of Cachong creek, *Hall*; ravine near borders of Cayuga lake, *Alexander Thompson* (Torrey, Fl. N. Y. 1: 191. 1843). Rare along Seneca and Cayuga lakes, *Dudley* (Cayuga Fl. 26. 1886).

Family 56 **FABACEAE** Reichenb. Consp. 149. 1828

(*Papilionaceae* L., *Leguminosae* Engl. & Prautl.)

Pea family

BAPTISIA Vent. Dec. Gen. Nov. 9. 1808

1 *Baptisia australis* (L.) R. Br. in Ait. Hort. Kew. ed. 2. 3: 6. 1811 Blue false indigo

Sophora australis L. Syst. Nat. ed. 12, 2: 287. 1767

Podalyria coerulea Michx. Fl. Bor. Am. 1: 264. 1803

Baptisia coerulea Nutt. Gen. 1: 281. 1818

Native from Pennsylvania southward and westward. Naturalized in the Hudson valley northward to Rensselaer county and rarely across the State to Ontario, Monroe and Erie counties.

2 **Baptisia tinctoria** (L.) R. Br. l.c. Wild indigo, horsefly weed
Sophora tinctoria L. Sp. Pl. 373. 1753

In dry, usually sandy or gravelly soil. Frequent or locally common across the State south of the Adirondack region. Becoming more abundant or common southward.

CROTALARIA L. Sp. Pl. 714. 1753

Crotalaria sagittalis L., l.c. Rattle-box

In dry open places, usually in light or sandy soil. Occasional or frequent on Long Island and Staten Island. Rare northward to Troy, Rensselaer county *Beck*, and reported from Lewis county by *Hough*.

LUPINUS (Tourn.) L. Sp. Pl. 721. 1753

Lupinus perennis L., l.c. Wild or perennial lupine

In dry, usually sandy soil. Frequent or locally common across the State in sandy localities from Rensselaer and Saratoga counties to Oneida, Lewis and Oswego counties, and westward to Lake Erie. Rare or absent in the hilly regions of heavy, clayey or limestone soils across the middle of the state.

Variable in color of flowers. Forma *rosea* Britton with pink or rose-colored flowers occurs southward and in Albany county. Forma *albiracemus* Moore, with white flowers, in Albany and Monroe counties.

ULEX L. Sp. Pl. 741. 1753

Ulex europaeus L., l.c. Furze, gorse, prickly or thorn broom

An infrequent or rare escape from cultivation in southern New York. Native of Europe.

ONONIS L. Sp. Pl. 717. 1753

Ononis repens L., l.c. Creeping rest harrow

Native of Europe. Reported as established near Rochester, *Booth* (Proc. Rochester Acad. 5: 11. 1910).

GENISTA (Tourn.) L. Sp. Pl. 709. 1753

Genista tinctoria L., l.c. 710 Dyeweed, woad-waxen, Dyer's broom

On dry hills and sandy fields, in southern New York. Infrequent or rare. Naturalized from Europe. Reported as established near Peekskill by *Mead* (Torrey, Fl. N. Y. 1: 185. 1843).

SAROTHAMNUS Wimmer, Fl. Schles. 278. 1832

Sarothamnus scoparius (L.) Wimmer; Koch. Syn. Fl. Germ. 1: 52. 1836
Scotch broom, hagweed

Spartium scoparium L. Sp. Pl. 709. 1753

Sarothamnus vulgaris Wimmer, Fl. Schles. 278. 1832

Cytissus scoparius Link, Enum. Hort. Berol. 2: 241. 1822

Adventive or naturalized from Europe at Richmond Hill, Queens county, *Hulst* (N. Y. State Mus. Bul. 25: 643. 1899).

Cytisus triflorus L'Her., is reported by *Britton & Hollick* (Torr. Club Bul. 12: 38. 1885), as an escape at Todt Hill, Staten Island, but not long persistent. Reported by *Hollick* (Torreya 22: 2. 1922) as permanently established.

MEDICAGO (Tourn.) L. Sp. Pl. 788. 1753

Medica (Tourn.) Medic. in Vorles. Churpf. Phys. Ges. 2: 386. 1787

Medicula Medic., l.c.

Lupularia Opiz, Seznam 61. 1852

Spirocarpus Opiz, l.c.

1 **Medicago sativa** L., l.c. Alfalfa, purple medic

Medica sativa Lam. Fl. Fr. 2: 584

Medica legitima Clus.; Greene, Fl. Franc. 101. 1894

Native of Europe. Common in cultivation and often escaped or established in many sections of the State.

2 **Medicago falcata** L., l.c. Yellow medic

Medica falcata Mill. Gard. Dict. ed. 8, No. 2, 1768

Native of Europe and a rare escape or waif in waste places.

3 **Medicago lupulina** L., l.c. 779 Black or hop clover

Medica lupulina Scop. Fl. Carm. ed. 2, 2: 88. 1772

Medicula lupulina Medic., l.c.

Lupularia parviflora Opiz, l.c.

In fields and waste places. Common throughout most sections of the State. Naturalized from Europe.

4 **Medicago hispida** Gaertn. Fr. & Sem. 2: 349. 1791

Toothed medic, bur clover

M. denticulata Willd. Sp. Pl. 3: 1414. 1803

In waste places and on ballast about the seaports. Rare except locally about New York City. Native of the Old World.

5 **Medicago arabica** (L.) Huds. Fl. Angl. 288. 1762

Spotted medic

M. polymorpha arabica L. Sp. Pl. 780. 1753

M. maculata Sibth. Fl. Oxon. 232. 1794

Medica arabica Medic., l.c. 386

A rare or infrequent adventive or ballast plant, and in waste places about the larger cities. Native of southern Europe.

MELILOTUS (Tourn.) Mill. Gard. Dict. Abr. ed. 4 1754

Sertula (L.) Kuntze, Rev. Gen. Pl. 205. 1891

1 **Melilotus alba** (Medic., 1787, name only) Desr. in Lam. Encycl. 4: 63. 1796 White melilot, white sweet clover

Trifolium Mel. officinale, β , L. Sp. Pl. ed. 2, 1079. 1763

T. vulgare Hayne in Schrad. Neue Jour. Bot. 2: 336. 1807

M. vulgaris, and *M. rugulosa* Willd. Enum. 789, 790. 1809

M. leucantha Koch, in DC. Fl. Fr. Suppl. 564. 1815 — Torr. Fl. N. Y. 1: 171. 1843

In waste places. Frequent or common in most sections of the State. Naturalized from Europe.

M. albus $\times$ **officinalis** (*M. Schoenkeitianus*) O. E. Schultz, in Engl. Bot. Jahrb. 29: 708. 1901, known in Europe, should be looked for in this country.

2 **Melilotus officinalis** (L.) Lam. Fl. Fr. 2: 594. 1778

Common yellow melilot, yellow sweet clover

Trifolium Mel. officinalis L. Sp. Pl. 765. 1753*

M. rugosa Gilib. Fl. Lithuan. 2: 83. 1782

T. Petitpierreanum Hayne, l.c. 337

M. Petitpierreana Willd. Enum. 790. 1809 — Britten, Jour. Bot. 45: 437. 1907

M. arvensis Wallr. Sched. Crit. 391. 1822

M. Melilotus officinalis Aschers. & Graebn. Fl. Nordostd. Flachl. 435. 1878

Leaflets elliptical, sharply denticulate; fruit naked, slender, 5-8-seeded; flowers yellow, 5-7 mm long.

In waste places. Frequent or common. Naturalized from Europe.

3 **Melilotus altissimus** Thuill. Fl. Par. ed. 2, 378. 1799

Trifolium Mel. officinalis, γ L. Sp. Pl. ed. 2, 1078. 1762

T. officinale Willd. Sp. Pl. 3: 1355. 1800

M. officinalis Willd. Enum. 790. 1809. Not Lam.

Distinguished from other yellow-flowered species by the narrow obovate-lanceolate leaflets; petals of equal length, the broad, almost rhombic, hairy, sessile, 2-seeded pods; flowers 5-7 mm long.

Adventive from Europe on ballast and in waste places near New York City. Rare.

4 **Melilotus indica** (L.) All. Fl. Pedem. 1: 308. 1785

Trifolium M. indica L. Sp. Pl. 765. 1753

*"*Meloloti*" is used by Linnaeus as a generic subdivision of *Trifolium*, hence the specific name is not "*T. Meloloti-officinale*" as assumed by some authors.

Native of the Mediterranean region and southern Asia. Rare as an adventive on ballast near New York City.

TRIFOLIUM (Tourn.) L. Sp. Pl. 764. 1753

Chrysaspis Desv. Fl. de L'Anjou, 338. 1827

Amarenus C. B. Presl. Symb. Bot. 1: 46. 1830

1 ***Trifolium agrarium*** L. Sp. Pl. 772. 1753 Yellow or hop clover

T. campestre Schreb. in Sturm. Deutsch. Fl. 16. 1804

Chrysaspis campestris Desv., l.c.

Amarenus agrarius Presl., l.c.

C. agraria Greene, Pittonia 3: 205. 1897

In fields and along roadsides. Frequent or locally common. Naturalized from Europe.

Greene (l.c.) maintains ***Trifolium aureum*** Poll. as distinct from this species, stating that the leaflets are narrower, entirely sessile and but slightly denticulate. Plants answering to these distinctions are not rare in our herbaria, but more information regarding their origin and distribution is desirable. The yellow hop clovers form a very distinct group, which Doctor Greene would recognize as deserving of generic recognition.

2 ***Trifolium dubium*** Sibth. Fl. Oxon. 231. 1794

Least hop clover

T. minus Smith, Engl. Bot. Pl. 1256. 1799

C. dubia Greene, l.c. 206

In fields and waste places. Infrequent or rare. Adventive or sparingly naturalized from Europe.

3 ***Trifolium procumbens*** L. Sp. Pl. 772. 1753

Low or smaller hop clover, hop trefoil

C. procumbens Desv., l.c.

A. procumbens Presl., l.c.

In fields and along roadsides. Common in most sections of the State outside of the higher mountains. Naturalized from Europe.

4 ***Trifolium incarnatum*** L. Sp. Pl. 769. 1753

Crimson, carnation, French or Italian clover

In fields, waste ground and on ballast. Infrequent or local, chiefly as an escape from cultivation. Native of Europe.

The common crimson clover of cultivation, and which has occasionally escaped, is perhaps not the true *T. incarnatum* of Linnaeus. Out plant with elongated inflorescence corresponds with the description of *T. Molinerii* Balbis (Cat. Hort. Taur. App. 1: 17. 1813).

5 ***Trifolium arvense*** L. Sp. Pl. 769. 1753

Rabbit-foot clover, old field or stone clover

In fields and waste places, especially in dry or sandy or rocky soil. Locally common in many parts of the State outside of the higher Adirondacks. Naturalized from Europe.

6 **Trifolium pratense** L. Sp. Pl. 768. 1753

Red, purple or meadow clover

In fields and meadows. Very common. Naturalized from Europe and common in cultivation. A white-flowered form was collected at Sandlake, Rensselaer county by Doctor Peck.

7 **Trifolium medium** L. Amoen. Acad. 4: 105. 1759

Zig-zag or mammoth clover

T. pennsylvanicum Willd. Enum. 793. 1809

In fields, meadows and waste places. Native of Europe. Frequently cultivated and common as an escape or naturalized plant in many localities.

8 **Trifolium reflexum** L. Sp. Pl. 766. 1753

Buffalo clover

In meadows and fields. Infrequent or rare from central New York westward and southward.

Utica, *Miss Sheldon*, fide Kneiskern; Genesee Falls, *Dewey*, fide Eaton (Torrey, Fl. N. Y. 1: 169. 1843). Deerfield, Oneida county, *Gilbert* (Torr. Club Bul. 11: 76. 1884, as *T. stoloniferum*). South mountain, Broome county, *Millsbaugh* (Torr. Club Bul. 12: 101. 1885). Macedon, Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 56. 1896). Some of these records doubtless represent adventive migration from the west or south, if correctly determined.

9 **Trifolium hybridum** L. Sp. Pl. 766. 1753

Alsike or Alsatian clover

In meadows and waste places. Often cultivated. Native of Europe and locally common as an escape or naturalized plant in many parts of the State.

7 **Trifolium repens** L. Sp. Pl. 767. 1753

White clover

In fields, waste ground and open places. Common. Naturalized from Europe. Forming a large part of lawn seed mixtures.

LOTUS (Tourn.) L. Sp. Pl. 773. 1753

Lotus corniculatus L., l.c.

Bird's-foot trefoil, bloom-fell

In waste places, fields, meadows and on ballast. Locally common about New York, Albany and other cities. Naturalized from Europe.

ACMISPON Raf. New Fl. 1: 53. 1836

Acmispon americanus (Nutt.) Rydberg, Torr. Club Bul. 40: 45.
1913 Prairie bird's-foot trefoil

Lotus sericeus Pursh, Fl. Am. Sept. 489. 1814. Not DC. 1813

Trigonella americana Nutt. Gen. 2: 120. 1818

Hosackia Purshiana Benth. Bot. Mag. 15: under *pl.* 1257. 1829

A. sericeum Raf., l.c.

H. americana Piper, Contr. U. S. Nat. Herb. 11: 366. 1906

Native of the middle and western states. Adventive and established along railroad at Pittsford, Monroe county *J. B. Fuller* (Proc. Rochester Acad. 5: 11. 1910).

Psoralea esculenta Pursh, Fl. Am. Sept. 475. 1814. Indian bread-root, pome blanche or prairie apple; native of the plains and prairies of the central states, south to Texas and west to Montana; was reported from Fort Edward, Washington county, by *Frank R. Rathbun* of Auburn in 1857, and said by him to have been identified by Solomon Sias, then professor of natural history in the Fort Edward Collegiate Institute (Waterloo Observer, July 1890). If correctly determined it was probably but a casual introduction or an escape from cultivation.

ANTHYLLIS (Tourn.) L. Sp. Pl. 719. 1753

Anthyllis vulneraria L., l.c. Kidney vetch, ladies' fingers

Adventive in fields and on ballast about New York City and in waste places about Rochester. Native of Europe.

AMORPHA L. Sp. Pl. 713. 1753

Amorpha fruticosa L., l.c. False or bastard indigo, lead plant

Native from Pennsylvania westward and southward. Naturalized or escaped from cultivation northward to Staten Island, Long Island, the Hudson river valley north to Albany, near Rochester, and doubtless elsewhere.

CRACCA L. Sp. Pl. 752. 1753

Tephrosia Pers. Syn. 2: 328. 1807

Cracca virginiana L., l.c. Goat's rue, wild sweet pea

Galega virginiana L. Sp. Pl. ed. 2, 1062. 1763

Tephrosia virginiana Pers., l.c.

T. holosericea Nutt. Jour. Acad. Phila. 7: 105. 1834

C. holosericea Britten & Rendle, Jour. Bot. 38: 15. 1900

In dry sandy soil. Infrequent or local northward across the State outside of the Adirondack region. Increasingly abundant southward.

Common in the sandy plains of Albany, Saratoga and Schenectady counties, in central New York about Oneida lake, and reported from Junius, Seneca county, and from Watson, Lewis county, (*Hough*).

ROBINIA L. Sp. 722. 1753

Pseudoacacia (Tourn.) Medic. in Vorles. Churpf. Phys. Ges. 2: 364. 1787

Robinia Pseudoacacia L *, l.c. Black or yellow locust

P. odorata Moench, Meth. 145. 1794

P. vulgaris Tourn.; Greene, Man. Bot. San Franc. 88. 1894

Native from Pennsylvania southward. Commonly naturalized from long cultivation northward to Lake Ontario, St Lawrence county, the Adirondack foothills and Lake Champlain.

2 **Robinia viscosa** Vent. Hort. Cels. pl. 4. 1800

Clammy locust, rose acacia

Native of the southern Appalachians. Frequent in cultivation northward and well established in many sections of the State northward to St Lawrence county and the upper Hudson valley.

3 **Robinia hispida** L. Mant. 101. 1767 Bristly or moss locust

P. hispida Moench., l.c.

Frequent in cultivation. Native of the southern Appalachian region. Apparently established only in southern New York.

SESBANIA (Adams. Fam. Pl. 2: 327. 1763 as Sesban)—Scop. Introd. 308. 1777

Sesbania macrocarpa Muhl.; Ell. Bot. S. C. & Ga. 2: 221. 1821
Pea tree, Long-podded sesban

Native of the southern States and adventive on ballast northward to New York.

Kraunhia floribunda (Willd.) Taub. in E. & P. Nat. Pfl. 3³: 271. 1894 (*Wisteria floribunda* DC. Prodr. 2: 390. 1825), the Japanese wisteria, native of Japan, and common in cultivation, is very rare as an escape, more often merely spreading or persistent, especially in the southern part of the State.

GLYCYRRHIZA (Tourn.) L. Sp. Pl. 741. 1753

Glycyrrhiza lepidota Pursh, Pl. Am. Sept. 480. 1814

Wild or American licorice

Native from Hudson bay south to the Great Lakes and west to Iowa and Washington. Reported near Buffalo on sandy shore of Lake Erie, apparently adventive from the west (*Clinton* in Gray, Add. to Bot. No. U. S. xci. 1863).

* **Robinia Slavnii** Rehder (Jour. Arnold Arb. 3: 38. 1922) [*R. Kelseyi* x *pseudoacacia*] originated at Durant-Eastman Park, Rochester, from seed collected by B. H. Slavin from *Robinia Kelseyi* Hutchins, cultivated in the park.

PETALOSTEMUM Michx. Fl. Bor. Am. 2: 48. 1803

Petalostemum purpureum (Vent.) Rydb. Mem. N. Y. Bot. Gard.
1: 238. 1900 Violet or purple prairie-clover

Dalea purpurea Vent. Hort. Cels. pl. 40. 1800

P. violaceum Michx., l.c. 50

Dalea violacea Willd. Sp. Pl. 3: 1337. 1803

Kuhnistera purpurea MacM. Met. Minn. 329. 1892

Native of the prairies and plains from Indiana and Manitoba to Texas and Colorado. Adventive along railroad tracks at East Rochester, *Baxter*, 1922.

ASTRAGALUS (Tourn.) L. Sp. Pl. 755. 1753

Astragalus carolinianus L., l.c. 757

Carolina or Canadian milk vetch

A. canadensis L., l.c.

Tragacantha canadensis Kuntze, Rev. Gen. Pl. 941. 1891

Phaca canadensis MacM. Met. Minn. 325. 1892

Along the shores of streams and lakes. Infrequent from Onondaga, Cayuga and Broome counties westward.

Reported from Hudson river at Troy, *Wright & Hall* (Cat. Pl. Troy 8. 1836), but not since seen there. East side Onondaga lake; Seneca lake, *Sartwell* (Paine, Cat. 72. 1865). Scarce on shores of Cayuga lake, *Dudley* (Cayuga Flora 24. 1886). Port Crane, Broome county, *Millsbaugh*; Hemlock lake, Livingston county, *Lucy* (Clute, Fl. Upper Susquehanna 30. 1898). Banks of Genesee river and at Long pond, Monroe county, and in Wayne county (Proc. Rochester Acad. 3: 57. 1896). Manitou beach, Monroe county, *House*.

The specimen of *A. canadensis* in the Linnaean herbarium marked "H. U." (Hortus Upsalensis), belongs to *Phaca neglecta*, but the specimens from Kalm are the proper *A. canadensis* (T. & G. Fl. N. Am. 1: 694. 1841).

PHACA L. Sp. Pl. 755. 1753

Phaca neglecta T. & G. Fl. N. Am. 1: 344. 1838

Cooper's milk vetch

Astragalus Cooperi A. Gray, Man. ed. 2, 98. 1856

A. neglectus Sheldon, Bul. Geol. Surv. Minn. 9: 59. 1894

Tragacantha neglecta Kuntze, l.c.

On banks and shores. Onondaga county westward. Rare.

Slopes along Onondaga lake between Salina and Liverpool, *Paine* (Cat. 72. 1865). Banks of Genesee river below the falls (Proc. Rochester Acad. 3: 57. 1896). Niagara Falls *Torrey*. Rare on banks of Cayuga lake, *Dudley* (Cayuga Fl. 24. 1886). Strawberry Island and Niagara Falls, *Day* (Cat. Pl. Buffalo 28).

ONOBRYCHIS (Tourn.) Mill. Gard. Dict. 4th Abr. ed. 1754

Onobrychis Onobrychis (L.) Rydb. Mem. N. Y. Bot. Gard. 1: 256. 1900 Sainfoin

Hedysarum Onobrychis L. Sp. Pl. 751. 1753

O. viciaefolia Scop. Fl. Carn. ed. 2, 2: 76. 1772

O. sativa Lam. Fl. Fr. 2: 652. 1778

O. vulgaris Hill, Brit. Herb. 293. 1756

In fields and waste ground. Near Gowanda, Erie county. *Dorothy Raymond*, 1918; *Dr Anne E. Perkins*, 1919. Native of Europe. Reported by *Day* as naturalized at Port Abion, Ontario.

COLUTEA (Tourn.) L. Sp. Pl. 723. 1753

Colutea arborescens L., l.c. Bladder senna

Native of Europe. Frequent in cultivation and reported as escaped and established near Rochester, and in southern New York.

CORONILLA (Tourn.) L. Sp. Pl. 742. 1753

Coronilla varia L., l.c. 743 Axseed, axwort, coronilla

Roadsides and waste places, sometimes in meadows. Infrequent but when established becoming abundant. Naturalized in many parts of the State. Native of Europe.

STYLOSANTHES Sw. Prodr. Fl. Ind. Occ. 108. 1788

Stylosanthes biflora (L.) B. S. P. Prel. Cat. N. Y. 13. 1888

Pencil flower

Trifolium biflorum L. Sp. Pl. 773. 1753

S. elatior Sw. Svensk. Acad. Handl. 1789: 296. pl. 2. f. 2. 1789

S. hispida Michx. Fl. Bor. Am. 2: 75. 1803

Arachis aprica Walt. Fl. Car. 182. 1788

In dry, usually sandy soil. Frequent in Suffolk county, less common westward on Long Island and rare on Staten Island. Reported from Westchester county.

MEIBOMIA Heist.; Fabr. Enum. Pl. Hort. Helmst. 168. 1759

Desmodium Desv. Jour. Bot. (II). 1: 122. pl. 5. f. 15. 1813

Pleurolobus St. Hil.; MacM. Met. Minn. 319. 1893

1 **Meibomia nudiflora** (L.) Kuntze, Rev. Gen. 197. 1891

Naked-flowered tick trefoil

Hedysarum nudiflorum L. Sp. Pl. 749. 1753

Desmodium nudiflorum DC. Prodr. 2: 330. 1825

Pleurolobus nudiflorus MacM., l.c. 321

In dry or rich woodlands and opens. Frequent or common throughout most sections of the State outside of the higher Adiron-

dacks. Forma **Dudleyi** House, N. Y. State Mus. Bul. 243-244: 52. 1923, with white flowers, collected by *W. H. Dudley* at Thacher's Pinnacle, West Danby.

2 **Meibomia grandiflora** (Walt.) Kuntze, l.c. 196

Pointed-leaved tick trefoil

Hedysarum grandiflorum Walt. Fl. Car. 185. 1788

H. acuminatum Michx. Fl. Bor. Am. 2: 72. 1803

Desmodium acuminatum DC. Prodr. 2: 329. 1825

Pleurolobus grandiflorus MacM., l.c.

In dry or rocky places, usually in open woods. Locally frequent across the State south of the Adirondacks.

3 **Meibomia pauciflora** (Nutt.) Kuntze, l.c. 198

Few-flowered tick trefoil

Hedysarum pauciflorum Nutt. Gen. 2: 109. 1818

Desmodium pauciflorum DC. Prodr. 2: 330. 1825

In open woods. Infrequent or rare from Seneca, Cayuga, Wayne and Chemung counties westward and southward.

4 **Meibomia Michauxii** Vail, Torr. Club Bul. 23: 140. 1896

Prostrate tick trefoil

Hedysarum canescens Willd. Sp. Pl. 3: 1188. 1803. Not L.

H. rotundifolium Michx. Fl. Bor. Am. 2: 72. 1803. Not Vahl, 1791

Desmodium rotundifolium DC. Prodr. 2: 330. 1825

M. rotundifolia Kuntze, Rev. Gen. Pl. 197. 1891

In dry woods and borders of woods and thickets. Frequent or common across the State southward. Less common or local northward to Saratoga, Oneida, Oswego, Monroe and Erie counties.

5 **Meibomia glabella** (Michx.) Kuntze, Rev. Gen. Pl. 198. 1891

Trailing tick trefoil

Hedysarum glabellum Michx. Fl. Bor. Am. 2: 73. 1803

D. humifusum Beck, Bot. 86. 1833

In dry sandy woods. Rare. Reported from near Yonkers, *Taylor* (Fl. Vic. N. Y. 403. 1915).

6 **Meibomia sessilifolia** (Torr.) Kuntze, l.c.

Sessile-leaved tick trefoil

Hedysarum sessilifolium Torr.; Curtis, Bost. Jour. Nat. Hist. 1: 123. 1834

D. sessilifolium T. & G. Fl. N. Am. 1: 363. 1838

In dry soil of open fields and borders of woods and thickets. A rare species ranging from Connecticut westward and southward. Not definitely recorded from New York, although the old Cabinet collection contains a specimen without definite data supposed to have been collected in southern New York.

7 *Meibomia canescens* (L.) Kuntze, l.c. 195

Hoary tick trefoil

Hedysarum canescens L. Sp. Pl. 748. 1753
D. canescens DC. Prodr. 2: 328. 1825
D. Aikinianum Beck, Bot. 84. 1833
D. Aikenii Eaton, Man. ed. 7, 166. 1836
D. viridiflorum DC, l.c., not Beck
H. viridiflorum Willd. Sp. Pl. 3: 1192. 1803. Not L.
Pleurolobus canescens MacM., l.c. 319

In rich soil. Infrequent or rare across the State.

Schenectady, *Pearson*; Seneca lake, *Beck*; Gorham, *Sartwell* (Paine, Cat. 73. 1865). Penn Yan, *S. H. Wright* (Dudley, Cayuga Fl. 24. 1886). Orleans county, *Miss Weld* (Proc. Rochester Acad. 3: 58. 1896). Shushan, Washington county, *Burnham & Dobbin*.

8 *Meibomia bracteosa* (Michx.) Kuntze, l.c. 195

Large-bracted tick trefoil

Hedysarum bracteosum Michx. Fl. Bor. Am. 2: 73. 1803
H. cuspidatum Muhl.; Willd. Sp. Pl. 3: 1188. 1803
D. bracteosum DC. Prodr. 2: 329. 1825
D. cuspidatum Hook. Comp. Bot. Mag. 1: 23. 1835

In thickets and open woods. Infrequent across the State outside of the Adirondack region. Increasingly frequent westward and southward in the State.

9 *Meibomia paniculata* (L.) Kuntze, l.c. 198

Panicled tick trefoil

Hedysarum paniculatum L. Sp. Pl. 749. 1753
Desmodium paniculatum DC. Prodr. 2: 329. 1825
Peurolobus paniculatus MacM., l.c. 320

In dry soil of open woods and thickets, often in the open. Frequent or common across the State outside of the Adirondacks, but extending, in sandy sections, well into the eastern, southern and western foothills.

10 *Meibomia laevigata* (Nutt.) Kuntze, l.c. 198

Smooth tick trefoil

Hedysarum laevigatum Nutt. Gen. 2: 109. 1818
Desmodium laevigatum DC. Prodr. 2: 329. 1825

In dry woods. Frequent on Long Island, less so on Staten Island and rare in southern Westchester county.

11 *Meibomia viridiflora* (L.) Kuntze, l.c. 197

Velvet-leaved tick trefoil

Hedysarum viridiflorum L. Sp. Pl. 748. 1753
Desmodium viridiflorum Beck, Bot. 84. 1833. Not DC. 1825

In dry woods. Infrequent in southern New York. Rare and local northward and westward to Schenectady, Herkimer and Seneca counties.

Near Tarrytown, *Hall*; Plains of Schenectady, *Pearson*; Herkimer county, *Beck*; Seneca lake, *Sartwell* (Paine, Cat. Pl. Oneida Co. 73. 1865). Rare at Greenport, Long Island, *Burnham & Latham* (Torreya 14: 244. 1914). Tottenville, Staten Island, *Britton*.

12 *Meibomia Dillenii* (Darlington) Kuntze, l.c. 195

Dillen's tick trefoil

Hedysarum marylandicum Willd. Sp. Pl. 3: 1189. 1803. Not L.
Desmodium marilandicum DC. Prodr. 2: 238. 1825 (excl. syn. L.)
D. Boottii Torrey, Curtis, Cat. Pl. Wilmington, 1837
D. Dillenii Darlington, Fl. Cest. 414. 1837
Pleurolobus Dillenii MacM., l.c. 321

In woods, thickets and moist open places. Common in most sections of the State except the higher Adirondacks and the northern counties.

13 *Meibomia canadensis* (L.) Kuntze, l.c. 195

Canadian or showy tick trefoil, sainfoil

Hedysarum canadense L. Sp. Pl. 748. 1753
Desmodium canadense DC. Prodr. 2: 328. 1825
Pleurolobus canadensis MacM., l.c. 319

In thickets and on river banks. Frequent or common across the State. In the Adirondacks to 2000 feet altitude. Rare or absent on the coastal plain of Long Island.

14 *Meibomia rigida* (Ell.) Kuntze, l.c. 198

Rigid tick trefoil

Hedysarum rigidum Ell. Bot. S. C. & Ga. 2: 215. 1824
Desmodium rigidum DC. Prodr. 2: 330. 1825

In dry soil of open woods, fields and thickets. Frequent on Long Island, Staten Island and in Westchester county. Rare or local northward to Albany county and westward to Monroe and Erie counties.

15 *Meibomia marylandica* (L.) Kuntze, l.c. 198

Smooth small-leaved tick trefoil

Hedysarum marylandicum L. Sp. Pl. 748. 1753
Desmodium marylandicum Boott; Darlington, Fl. Cest. 412. 1837. Not DC. 1825

In dry or sandy soil of open woods, fields and thickets. Frequent or common on Long Island, Staten Island and in Westchester county. Local or rare northward to Schenectady and westward to Lake Erie.

Schenectady plains, *Pearson*; Yates county, *Sartwell* (Paire Cat.

Pl. Oneida Co. 73. 1865). Irondequoit bay, *Booth*; Greece, Monroe county, *Killip*; Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 58. 1896; 5: 89. 1917). Sullivan hill, Tioga county, *Lucy*; Waverly, Chemung county, *Graves* (Clute, Fl. Upper Susquehanna 30. 1898). Ithaca and White Church, *Dudley* (Cayuga Fl. 25. 1886).

16 *Meibomia obtusa* (Muhl.) Vail, Torr. Club Bul. 19: 115. 1892
Hairy small-leaved tick trefoil

Hedysarum obtusum Muhl.; Willd. Sp. Pl. 3: 1190. 1803

H. ciliare Muhl., Willd., l.c. 1196

Desmodium ciliare DC. Prodr. 2: 329. 1825

In dry soil, chiefly in open woods and thickets. Occasional or frequent on Long Island, Staten Island and in Westchester county. Local or rare northward to Rensselaer county and westward across the State.

Pine plains of Rome, *Kneiskern*; Yates county, *Sartwell* (Paine, l.c.). Green Island, *Wright & Hall* (Cat. Pl. Troy 15. 1836). Irondequoit bay, *Baxter*; Allen's creek, *Fish*; Mendon, *Barter* (Proc. Rochester Acad. 3: 58. 1896; 5: 11. 1910).

LESPEDEZA Michx. Fl. Bor. Am. 2: 70. 1803

1 *Lespedeza repens* (L.) Bart. Prodr. Fl. Phila. 2: 77. 1818

Creeping bush clover

Hedysarum repens L. Sp. Pl. 749. 1753

H. prostratum Willd. Sp. Pl. 3: 1200. 1803

L. prostrata Pursh, Fl. Am. Sept. 481. 1814

In dry or sandy soil. Infrequent in the southeastern part of the State on Long Island and Staten Island and rarely in Westchester county.

2 *Lespedeza procumbens* Michx. Fl. Bor. Am. 2: 70. 1803

Trailing bush clover

Hedysarum repens Willd. Sp. Pl. 3: 1200. 1803. Not L. 1753

In dry soil. Frequent in the southeastern part of the State. Rare or local northward to Schenectady county and west to Yates county, *Sartwell*.

3 *Lespedeza violacea* (L.) Pers. Syn. 2: 318. 1807

Violet bush clover

Hedysarum violaceum L. Sp. Pl. 749. 1753 (excl. syn. Gronovius, which belongs to *Psoralea melilotoides* Michx.)

H. frutescens L., l.c. 748, as to the single citation given, viz: "*H. fol. ternatis*, etc., not *L. frutescens* Ell., not *L. frutescens* Britt."

L. divergens Pursh, Fl. Am. Sept. 481. 1814

In dry or sandy soil. Common across the State southward. Less frequent or locally common northward in sandy sections to Lake Champlain and the St Lawrence river, but not in the Adirondacks, and westward to Lake Erie.

The specimens reported from Monroe county as *L. Stuvei* (Proc. Rochester Acad. 3: 58. 1896), are partly this, and partly *L. intermedia*.

4 *Lespedeza Brittonii* Bicknell, Torrey 1: 103. 1901

Britton's bush clover

L. violacea var. *divergens* T. & G. Fl. N. Am. 1: 367. 1840; Torrey, Fl. N. Y. 1: 183. 1843. Not *Hedysarum divergens* Willd., and not *L. divergens* Pursh.

In dry woodlands and borders of woods. Infrequent in the southern and southeastern part of the State, northward to Bronxville, *Bicknell*; Rensselaer county and Albany county *House*. Probably of wider distribution.

5 *Lespedeza Nuttallii* Darlington, Fl. Cest. ed. 2, 420. 1837

Nuttall's bush clover

L. Stuvei Darl. Florul. Cest. 81. 1826. Not Nutt. 1818

In dry soil of open woods, fields and borders. Infrequent from Rensselaer county, *Peck*, southward.

6 *Lespedeza Stuvei* Nutt. Gen. 2: 107. 1818

Stuve's bush clover

In dry soil. Frequent on Long Island and Staten Island. Rare northward to Rensselaer county, *Howe*; and westward to Tompkins county, *Dudley*.

7 *Lespedeza intermedia* (S.Wats.) Britton, Trans. N. Y. Acad. Sci. 12: 63. 1893

Wand-like bush clover

L. violacea var. *sessiliflora* T. & G. Fl. N. Am. 1: 367. 1840; Torr. Fl. N. Y. 1: 183. 1843. Not *L. sessiliflora* Michx.

L. reticulata S. Wats. Bibliog. Ind. 1: 233. 1878. Not Pers.

L. Stuvei var. *intermedia* S. Wats.; Gray, Man. ed. 6, 147. 1890

L. frutescens Britton, Torr. Club Mem. 5: 205. 1894. Not *L. frutescens* (Willd.) Ell.; not *Hedysarum frutescens* L.

In dry, usually sandy soil. Frequent across the State south of the Adirondacks. Common southward especially on Long Island and Staten Island. Variable.

8 *Lespedeza neglecta* (Britton) Mackenzie & Bush, Trans. Acad. Sci. St. Louis 12: 17. 1902

L. Stuevei angustifolia Britton, Trans. N. Y. Acad. Sci. 12: 63. 1893
L. Stuevei neglecta Britton, Torr. Club Mem. 5: 206. 1894

Stems upright, greenish, slender, 3-10 dm high, wand-like, sometimes arching, usually nearly or quite erect; very leafy, simple or with few or several densely-flowered wand-like branches toward the summit; densely and softly velvety-pubescent or canescent with short, spreading hairs: petioles mainly shorter, rarely as long as the linear-oblong or lanceolate-oblong leaflets which are acute at the base and blunt or rounded at the mucronulate apex; leaflets 12-25 mm long, 4-8 mm broad, pale green with short appressed pubescence above which in younger and upper leaves is densely velvety, densely velvety pubescent beneath; terminal leaflet rather long-stalked; peduncles not leaf-bearing and shorter than the subtending petioles, clustered in the upper axils, the clusters or racemes 4-10 flowered; petaliferous flowers pinkish-purple, somewhat larger than the intermixed fertile ones; calyx 1.5-2 mm long, much shorter than the orbicular, abruptly acute, canescent pods.

Port Washington, Long Island, *House*, Sept. 16, 1915.

By its pubescence and wand-like habit this plant strongly resembles *L. stuevei*, and was photographed as such for the Wild Flowers of New York.

9 *Lespedeza virginica* (L.) Britton, Trans. N. Y. Acad. Sci. 12: 64. 1893 Slender bush clover

Medicago virginica L. Sp. Pl. 778. 1753

Hedysarum junceum Walt. Fl. Car. 185. 1788. Not L.

L. sessiliflora Michx. Fl. Bor. Am. 2: 70. 1803

Hedysarum reticulatum Willd. Sp. Pl. 3: 1195. 1803

L. reticulata Pers. Syn. 2: 318. 1807

L. angustifolia Darl. Fl. Cest. 81. 1826. Not Ell. 1824

L. violacea vars. *angustifolia* & *sessiliflora* T. & G. Fl. N. Am. 1: 367. 1840

In dry or sandy soil. Frequent or occasional on Long Island, and Staten Island. Reported by *Paine* (Cat. 73. 1863), from Schenectady, *Pearson*; but not recently collected north of Westchester county.

10 *Lespedeza simulata* Mackenzie & Bush, Trans. Acad. Sci. St. Louis 12: 18. 1902

In dry soil. Rare. The range is reported as extending east to Connecticut, but it has not been definitely reported from this State.

11 *Lespedeza hirta* (L.) Hornem. Hort. Havn. 699. 1807
 Hairy bush clover

Hedysarum hirtum L. Sp. Pl. 748. 1753

L. polystachya Michx. Fl. Bor. Am. 2: 71. pl. 40. 1803

L. villosa Pers. Syn. 2: 318. 1807

Despezeza hirta Nieuwl. Am. Mid. Nat. 3: 176. 1914

In dry, usually sandy soil. Frequent or common across the State outside of the Adirondacks. Locally northward to the shores of

Lake Champlain in Essex county, and to Jefferson county. Increasingly common southward in the State.

12 *Lespedeza capitata* Michx. Fl. Bor. Am. 2: 71. 1803

Round-headed bush clover

? *Hedysarum umbellatum* Walt. Fl. Car. 184. 1788

Hedysarum frutescens Willd. Sp. Pl. 3: 1193. 1803. Not L.

L. fruticosa Pers. Syn. 2: 318. 1807

L. frutescens Ell. Bot. S. C. & Ga. 2: 206. 1824

L. capitata var. *vulgaris* T. & G. Fl. N. Am. 1: 368. 1840

In dry, usually sandy fields. Frequent or common across the State outside of the Adirondacks, north to Lake Champlain and Jefferson county, and westward to Lake Erie. Increasingly common southward.

13 *Lespedeza Bicknellii* House, Torrey 5: 167. 1905

Bicknell's bush clover

L. velutina Bicknell, Torrey 1: 102. Sept. 1901. Not Dunn, Febr. 1901

L. capitata var. *velutina* Fernald, Rhodora 10: 51. 1908

In dry fields. Occasional in the southeastern part of the State. Not recorded north of Westchester county. Closely related to the preceding and by some authorities regarded as a variety or form of it.

14 *Lespedeza angustifolia* (Pursh) Ell. Bot. S.C. & Ga. 2: 206. 1824

Narrow-leaved bush clover

L. capitata var. *angustifolia* Pursh, Fl. Am. Sept. 480. 1814

In dry sandy soil. A southern species found at Hempstead Plains, Long Island.

VICIA (Tourn.) L. Sp. Pl. 734. 1753

1 *Vicia Cracca* L. Sp. Pl. 735. 1753

Tufted or cow vetch, blue or bird vetch

In rather dry soil of fields, meadows and thickets. Frequent across the State northward where apparently native. Locally abundant southward to the vicinity of New York City where it appears to be adventive.

2 *Vicia villosa* Roth, Tent. Fl. Germ. 2²: 182. 1793

European vetch

In fields and meadows, or sometimes in waste grounds. Infrequent or locally abundant throughout the State outside of the densely wooded areas. Naturalized or adventive from Europe.

- 3 *Vicia americana* Muhl.; Willd. Sp. Pl. 3: 1096. 1803
American or purple vetch
V. sylvatica Nutt. Gen. 2: 97. 1818

In moist grounds, chiefly along streams and lakes. Locally abundant from Tioga, Tompkins, Oneida and St Lawrence counties westward across the State.

- 4 *Vicia caroliniana* Walt. Fl. Car. 182. 1788
Carolina or pale vetch
V. parviflora Michx. Fl. Bor. Am. 2: 69. 1803

On river banks, cliffs and in fields and meadows or open woods. Susquehanna and Chenango valleys and Oneida county, westward and southward. Rare toward the east of its range. Increasingly abundant westward and southward.

- 5 *Vicia tetrasperma* (L.) Moench, Meth. 148. 1794
Slender vetch
Ervum tetraspermum L. Sp. Pl. 738. 1753

In fields, meadows and waste places. Frequent or common in many sections of the State. Naturalized from Europe.

- 6 *Vicia hirsuta* (L.) Koch, Syn. Fl. Germ. 191. 1837
Hairy vetch
Ervum hirsutum L. Sp. Pl. 738. 1753

Vicia Mitchellii Raf. Prec. Decouv. 37. 1814

In fields and waste places. Frequent or common. Naturalized from Europe.

- 7 *Vicia sativa* L. Sp. Pl. 736. 1753
Common vetch or tare

In fields or waste places. Infrequent or occasional in many parts of the State. Naturalized from Europe.

- 8 *Vicia angustifolia* L. Amoen. Acad. 4: 105. 1759
Narrow-leaved vetch

In fields and waste places, chiefly near the coast. Infrequent inland to Rensselaer, Jefferson, St Lawrence and Monroe counties, and perhaps more widely distributed across the State. Naturalized from Europe. Northward the var. *segetalis* (Thuill.) Koch, is the prevailing form.

LATHYRUS L. Sp. Pl. 729. 1753

- 1 *Lathyrus maritimus* (L.) Bigel Fl. Bost. ed. 2, 268. 1824
Beach pea, seaside pea

Pisum maritimum L. Sp. Pl. 727. 1753

In sandy soil along the coast of Long Island; the eastern end of Oneida lake and along Lake Ontario from Jefferson county westward, and along the shore of Lake Erie. Our form of the species is designated as var. **glaber** (Ser.) Eames, *Rhodora* 11: 95. 1909, the typical European form being pubescent.

2 **Lathyrus palustris** L. Sp. Pl. 733. 1753

Marsh vetchling, wild pea

In moist or wet grounds. Locally abundant northward across the State outside of the higher Adirondacks, chiefly along the St Lawrence and Lake Ontario. Elsewhere local southward to Long Island and westward to Lake Erie.

Var. **macranthus** (T.G.White) Fernald, *Rhodora* 13: 50. 1911. Similar to the typical species but finely pubescent on the stems, leaves, calyces and pods. Murray Island, Jefferson county, *Robinson & Maxon*.

Var. **linearifolius** Seringe, in DC. Prodr. 2: 371. 1825. (*L. viciaeformis* Wallr. Sched. Crit. 388. 1822). A very distinct variety, with very narrow leaflets and the lower lobes of the calyx less elongated. Usually quite glabrous and apparently of the same range as the typical form, and in this State commonly found with it.

Var. **pilosus** (Cham.) Ledeb. Fl. Ross. 1: 686. 1842 (*L. pilosus* Cham. Linnaea 6: 548. 1831). Similar to var. *linearifolius*, but stems, leaves, calyces and pods, finely and usually densely pubescent. Wading River, Long Island, *E. S. Miller*.

3 **Lathyrus myrtifolius** Muhl.; Willd. Sp. Pl. 3: 1091. 1803

Myrtle-leaved marsh pea

L. stipulaceus LeConte, in Torr. Cat. Pl. N. Y. 92. 1819

L. palustris var. *myrtifolius* A. Gray, Pl. Fendl. 30. 1849

In moist or wet grounds, especially along the shores of streams, lakes and ponds. Frequent or common throughout most sections of the State, especially northward and westward. Less frequent or rare on Long Island.

4 **Lathyrus ochroleucus** Hook. Fl. Bor. Am. 1: 159. 1833

Cream-colored or pale vetchling

L. glaucifolius Beck, Bot. 90. 1833

L. albidus Aiken in Eaton, Man. ed. 7, 362. 1836

On river banks and hillsides. Rare and local from Lake Champlain to the St Lawrence river. Increasingly abundant southward and westward in the State from Broome and Tompkins counties to Chautauqua county.

Bluffs of northern Lake Champlain, *Brainerd*. Watertown,

Crawe. Binghamton and Elmira, *Clute* (Fl. Upper Susquehanna 31. 1898). Watertown, *Crawe*, Gorham, Ontario county, *Sartwell*, and Monroe county, *Booth* (Paine, Cat. Pl. Oneida Co. 74. 1865). Ithaca, Tompkins county, *Sheldon*. Fall creek, ravines and shores of Cayuga lake, *Dudley* (Cayuga Flora 26, 1886). Portageville, *Peck*. Frequent along Genesee river and in Seneca Park (Proc. Rochester Acad. 3: 59. 1896). Carrollton, *Peck* (45th Rep't N. Y. State Mus. 26. 1893). Lake Chautauqua, *J. R. Churchill*, Barton, Tioga county, *Fenno*.

5 *Lathyrus latifolius* L. Sp. Pl. 733. 1753

Everlasting pea

In waste places and along roadsides, occasionally escaped from cultivation and established. Native of Europe.

CLITORIA L. Sp. Pl. 753. 1753

Ternatea [L.] H. B. K. Nov. Gen. & Sp. 6: 415. 1823

Clitoria mariana L., l.c.

Butterfly pea

Ternatea mariana Kuntze, Rev. Gen. Sp. 210. 1891

In dry soil, New Jersey southward. Formerly near Brooklyn (Torrey Fl. N. Y. 1: 163. 1843), but not since collected in this State, and probably no longer a member of our flora.

GLYCINE L. Sp. Pl. 753. 1753

Bradleia Adans. Fam. Pl. 2: 324. 1763

Apios Moench, Meth. 165. 1794

Glycine Apios L., l.c.

Groundnut, wild bean

Apios tuberosa Moench, Meth. 165. 1794

Apios Apios MacM. Torr. Club Bul. 19: 15. 1892

Phaseolus tuberosus Eaton & Wright, Man. 354. 1840

In moist ground, especially in alluvial thickets along streams. Frequent or common in most parts of the State but rare in most sections of the Adirondacks and apparently absent from the northern portion of the Adirondacks.

FALCATA Gmel. in L. Syst. Nat. ed. 13, 2: 1131. 1796

Amphicarpa Ell. Jour. Acad. Phila. 1: 372. 1817

1 *Falcata comosa* (L.) Kuntze, Rev. Gen. Pl. 182. 1891

Wild or hog peanut

Glycine comosa L. Sp. Pl. 754. 1753

G. bracteata L., l.c.

G. monoica L. Sp. Pl. ed. 2, 1023. 1763

Amphicarpa monoica Ell., l.c. 373

In moist thickets and open marshy places. Common throughout the State.

2 *Falcata Pitcheri* (T. & G.) Kuntze, l.c. Pitcher's hog peanut
Amphicarpa Pitcheri T. & G. Fl. N. Am. 1: 292. 1838

In moist thickets and woods. Rensselaer and Saratoga counties southward, westward to St Lawrence county and Lake Erie. Infrequent or locally abundant.

GALACTIA P. Br. Hist. Jamaic. 298. 1756 —

Adans. Fam. Pl. 2: 322. 1763

1 *Galactia volubilis* (L.) Britton, Torr. Club Mem. 5: 208. 1894
 Downy milk pea

Hedysarum volubile L. Sp. Pl. 750. 1753

G. mollis Nutt. Gen. 2: 117. 1818. Not Michx. 1803

G. pilosa Ell. Bot. S. C. & Ga. 2: 238. 1824. Not Nutt. 1818

In dry soil. Long Island and Staten Island.

2 *Galactia regularis* (L.) B. S. P. Prel. Cat. N. Y. 14. 1888

Milk pea

Dolichos regularis L. Sp. Pl. 726. 1753

G. glabella Michx. Fl. Bor. Am. 2: 62. 1803

G. Purshii Desv. Ann. Sci. Nat. 9: 413. 1825

In dry or sandy soil. Frequent or common near the coast of Long Island and Staten Island. Less common or rare northward into Westchester county, to Peekskill, *Mead* (Torr. Fl. N. Y. 1: 162. 1843).

PUERARIA DC. In Ann. Sci. Nat. I. 4: 97. 1825

Pueraria Thunbergiana (Sieb. & Zucc.) Benth. Jour. Linn. Soc. 9: 122. 1867
 Kudzu vine

Pachyrizus Thunbergianus Sieb. & Zucc. in Abh. Akad. Muench. IV. 3: 237. 1846

Native of China and frequent in cultivation. Escaped to waste ground on Staten Island.

CICER (Tourn.) L. Sp. Pl. 738. 1753

Cicer arietinum L., l.c.

Chick pea

Native of southern Europe and the Orient. Occasional in cultivation. Spontaneous or escaped from cultivation in waste places. Rochester, *D. M. White*.

ERVUM (Tourn.) L. Sp. Pl. 738. 1753

Lens (Tourn.) Mill. Gard. Dict. abr. ed. 4, 1754

Ervum Lens L., l.c.

Lens

Lens esculenta Moench, Meth. 131. 1794
Lens culinaria Medic. Vorles. Churpf. Phys. Ges. 2: 361. 1787
Cicer Lens Willd. Sp. Pl. 3: 1114. 1800
Vicia Lens Coss. & Germ. Fl. Par. ed. 1, 143. 1845

Native of the Old World. Occasional in cultivation. Escaped or spontaneous in waste ground. Rochester, *D. M. White*.

FABA (Tourn.) Mill. Gard. Dict. abr. ed. 4, 1754

Faba Faba (L.) comb. nov.

Broad, Windsor or dwarf English bean

Vicia Faba L. Sp. Pl. 737. 1753
Vicia esculenta Salisb. Prodr. 339. 1797
Vicia vulgaris S. F. Gray, Nat. Arr. Br. Pl. 2: 617. 1821
Faba vulgaris Moench, Meth. 150. 1794

Native of the Old World. Frequent in cultivation. Escaped from cultivation or spontaneous in waste ground, Rochester. *D. M. White*.

PHASEOLUS (Tourn.) L. Sp. Pl. 723. 1753

1 **Phaseolus polystachyus** (L.) B.S.P. Prel. Cat. N. Y. 15. 1888
 Wild bean

Dolichos polystachyus L. Sp. Pl. 726. 1753
P. paniculatus Michx. Fl. Bor. Am. 2: 60. 1803
P. perennis Walt. Fl. Car. 182. 1788

In dry or sandy soil of thickets and borders of marshes. Long Island and Staten Island. Perhaps also in southern Westchester county.

2 **Phaseolus vulgaris** L. Sp. Pl. 723. 1753

Garden or common bean

Believed to be of tropical American origin. The original of all of the common garden pole and bush beans, aside from the lima types, including the pole cranberry. Runs into many forms or varieties. Occasionally persistent in waste ground especially after cultivation, but apparently not entirely hardy, and hence although often seen as an escape, not apt to become persistent for more than a season.

STROPHOSTYLES Ell. Bot. S. C. & Ga. 2: 229. 1822

1 **Strophostyles angulosa** (Ort.) Ell. l.c. Trailing wild bean

Phaseolus helvolus L. Sp. Pl. 724. 1753
P. trilobus Michx. Fl. Bor. Am. 2: 60. 1803. Not Roth.
P. angulosus Ort. Nov. Pl. 24. 1797
Glycine virginica Spreng. in Schrad. Jour. Bot. 2: 198. 1800
G. angulosa Muhl. in Willd. Sp. Pl. 3: 1056. 1803
S. helvola (L.) Britton, in B. & B. Ill. Fl. 2: 338. 1897 (doubtfully *S. helvola* (Willd.) Ell., l.c. 230)

In sandy soil. Common on Long Island and Staten Island. Local

or rare in sandy or barren soil, northward to Albany county and westward along the south shore of Lake Ontario and along Lake Erie.

2 **Strophostyles umbellata** (Muhl.) Britton, l.c. 339

Pink wild bean

Glycine umbellata Muhl.; Willd. Sp. Pl. 3: 1058. 1803

G. pedunculosa Raf. Med. Repos. (II) 5: 360. 1808

G. peduncularis Muhl. Cat. 67. 1813—*Phaseolus peduncularis* Bart. Fl. Phila. 2: 81. 1818

S. peduncularis Ell., l.c. 230

Phaseolus Helvola T. & G. Fl. N. Am. 1: 280. 1838. Not L.

P. umbellatus Britton, Trans. N. Y. Acad. 9: 10. 1889

In sandy soil. Infrequent on Long Island.

VIGNA Savi, Mem. Phas. 3: 7. 1826

Vigna repens (L.) Kuntze, Rev. Gen. Pl. 184. 1891

Native of tropical America and adventive on ballast near New York City. Probably not persistent.

Family 57 **GERANIACEAE** J.St.Hil. Expos. Fam. 2: 51. 1805

Geranium family

GERANIUM (Tourn.) L. Sp. Pl. 676. 1753

Robertium Picard, Mem. Soc. Agr. Boulogne II. 1: 99. 1837. Not
Robertia Scop. 1777

Robertiella Hanks; Hanks & Small, N. Am. Fl. 25: 3. 1907

1 **Geranium Robertianum** L. Sp. Pl. 681. 1753

Herb Robert, red robin

Robertium vulgare Picard, l.c.

Robertiella Robertianum Hanks, l.c.

In rocky woods or in rich humus soil in woodlands, rarely in light or sandy soil. Frequent or locally common across the State but rare on Long Island and Staten Island.

Forma **albiflora** (G. Don) House, N. Y. State Mus. Bul. 243-244: 54. 1923. (*G. Robertianum* var. *albiflorum* G. Don, Gen. Syst. 1: 721), at Sodus Bay, *Battershall* (N Y. State Mus. Bul. 2: 26. 1887).

2 **Geranium pratense** L. Sp. Pl. 681. 1753

European crane's-bill

Native of Europe. Naturalized at Collins, Erie county, *Dr Anne E. Perkins*; and reported from a few other localities chiefly in southern New York.

3 **Geranium maculatum** L., l.c. Wild or spotted crane's-bill

In rich, moist or low woodlands and open places. Common

throughout the State except in the higher and northern Adirondacks.

Forma albiflorum (Raf.) House, l.c., 48 (var. *albiflorum* Raf. Med. Fl. 1: 217. 1828), with white corollas, occurs near Syracuse, *Mrs M. O. Rust* (35th Rep't N. Y. State Mus. 145. 1884).

4 *Geranium sibiricum* L., l.c. 683 Siberian crane's-bill

Reported as occurring rarely along roadsides in the northern part of New York City, and infrequently about cities in other portions of the State. Adventive from Asia.

5 *Geranium columbianum* L., l.c. 682 Long-stalked crane's-bill

Native of Europe and a rare adventive near Rochester and perhaps elsewhere.

6 *Geranium rotundifolium* L., l.c. 683 Round-leaved crane's-bill

Native of Europe and adventive on ballast about New York City. Occasional in lawns and fields elsewhere in the State.

7 *Geranium carolinianum* L. Sp. Pl. 682. 1753 Carolina crane's-bill

In dry or barren soil. Locally abundant in the southeastern part of the State. Not definitely known north of the Hudson highlands.

8 *Geranium Bicknellii* Britton, Torr. Club Bul. 24: 92. 1897 Northern crane's-bill

G. carolinianum of northern N. Y. reports. (Torrey, Fl. N. Y. 1: 120. 1843, as var.)

In dry soil and old fields. Frequent or locally common from St Lawrence county southward to Herkimer and Broome counties, westward to Lake Erie.

Brownville, Jefferson county, *Peck, House*; Little Falls, *Haberer* (N. Y. State Mus. Bul. 94: 32. 1905). Norfolk, Constable, Hammond and Potsdam, and often a garden weed, St Lawrence county, *Mrs O. P. Phelps*. Pinnacle, Rochester, *Macauley*. Monroe county (Proc. Rochester Acad. 3: 52. 1865; 5: 89. 1917). Diana, Lewis county, *Hough* (as *G. carolinianum*). Clute (Fl. Upper Susquehanna 21. 1898, as *carolinianum*).

Reported from Aqueduct, Long Island, *Hulst* (Torreya 2: 52. 1902).

9 *Geranium dissectum* L. Amoen. Acad. 4: 282. 1760 Cut-leaved crane's bill

In waste places and in ballast, sometimes in lawns. Adventive or naturalized from Europe.

10 **Geranium pusillum** L. Sp. Pl. ed. 2, 957. 1763

Small-flowered crane's-bill

In waste places, roadsides, lawns and old fields. Infrequent. Naturalized from Europe.

11 **Geranium molle** L. Sp. Pl. 682. 1753

Dove's-foot crane's-bill

In lawns and waste places. Infrequent or rare. Adventive from Europe.

ERODIUM L'Her.; Ait. Hort. Kew. 2: 414. 17891 **Erodium cicutarium** (L.) L'Her., l.c.

Hemlock stork's-bill or heron's-bill, alfilaria

Geranium cicutarium L. Sp. Pl. 680. 1753

In waste places and in fields. Infrequent or locally common. Adventive from Europe. Introduced into this State long ago but rarely becoming common. Found by Vasey in 1837 on the shore of Oneida lake near Constantia.

2 **Erodium moschatum** (Burm. f.) L'Her., l.c.*Geranium moschatum* Burm. f., Spec. Geran. 29. 1759

Native of Europe. Reported as a rare adventive in southeastern New York.

Family 58 **OXALIDACEAE** Lindl. Nat. Syst. ed. 2, 140. 1836

Wood Sorrel family

OXALIS L. Sp. Pl. 433. 1753*Acetosella* [Moehr. 1736] Kuntze, Rev. Gen. Pl. 90-93. 1891Section *Acetosella*1 **Oxalis Acetosella** L., l.c. White or true wood sorrel, alleluia*O. montana* Raf. Am. Mo. Mag. 266. 1818; Ann. Nat. 12. 1820*O. vulgaris* S. F. Gray, Nat. Arr. Br. Pl. 2: 630. 1821*O. americana* Bigel.; DC. Prodr. 1: 700. 1824*A. alba* Kuntze, l.c. 90

In cold damp mossy woods and on shaded banks. Common across the State northward. Less common southward to Dutchess, Delaware and Orange counties westward to Lake Erie.

A form with rose-colored or purplish petals is designated as var. **subpurpurascens** DC. The common American form of the species differs only slightly from the European in the color and veining of the petals, and is certainly of no more than varietal rank.

Section *Ionoxalis*

Ionoxalis Small, Fl. SE. U. S. 665. 1903

2 *Oxalis violacea* L., l.c. 434 Violet wood sorrel

O. longiflora L., l.c. 433

Ionoxalis violacea Small, l.c.

A. violacea Kuntze, l.c. 91

In open woods and on hillsides. Rare northward across the State from Rensselaer to Lewis counties, westward and southward. Increasingly common in the southern part of the State.

Section *Xanthoxalis*

Xanthoxalis Small, Fl. SE. U. S. 666. 1903

3 *Oxalis stricta* L., l.c. 435 Upright yellow wood sorrel

O. Dillenii Jacq. Oxal. 15, 28. 1794

O. corniculata var. *Dillenii* Trelease, in Gray, Syn. Fl. 1¹: 365. 1897

X. stricta Small, l.c. 667

In moist or damp, usually rich soil, often in shade or in open woodlands, but more frequently in the open. Very common in most sections of the State, outside of the higher Adirondacks.

4 *Oxalis oneidica* House, N. Y. State Mus. Bul 243-244: 43. 1923.
Oneida yellow wood sorrel

Stems erect from more or less decumbent bases, 5-15 cm high, arising from short or occasionally elongated (perennial ?) rootstocks, densely strigilose and slender; foliage grayish with a very fine, closely appressed indument; leaflets 3, blades 8-12 mm wide, not appreciably ciliate; peduncles longer than the petioles, rarely overtopping the stem and its branches, 2-flowered; flowers erect, the pedicels appressed-pubescent and refracted in fruit; sepals oblong-lanceolate, acute, 2.5-3.5 mm long, half as broad; petals pale yellow, 8-10 mm long, obcordate or notched; filaments glabrous; capsules columnar, 12-15 mm long, rather abruptly pointed at the apex and densely appressed-pubescent.

In dry sterile rocky and sandy fields. Taberg, Oneida county, *H. D. House* 6140; June 5, 1919 (Type in herbarium N. Y. State Museum). Monroe county, *E. P. Killip* 6178.

Closely related to *O. stricta*, as described in the North American Flora, but differing in its uniform dense and grayish indument of finely appressed hairs which extends to all parts of the plant except the petals and filaments.

5 *Oxalis corniculata* L. Sp. Pl. 435. 1753
Yellow procumbent wood sorrel

O. repens of Gray's Man. ed. 7, 1908

X. corniculata Small, l.c. 667

On ballast about New York City, and occasionally a weed in

gardens and cultivated soil in southern New York and greenhouses elsewhere. Native of the warmer regions of the Old World.

- 6 *Oxalis Bushii* Small, Torr. Club Bul. 25: 611. 1898
Bush's yellow wood sorrel

X. Bushii Small, Fl. SE. U. S. 667. 1903

In dry, usually sandy soil. Infrequent or locally abundant from Rensselaer and Saratoga counties westward to Oneida county and southward. Doubtless of wider distribution in the State.

- 7 *Oxalis rufa* Small, in Britton, Man. 577. 1901
Red-leaved yellow wood sorrel

X. rufa Small, Fl. SE. U. S. 668. 1903

In woods and moist shaded soil or in openings and fields. Frequent across the State outside of and chiefly south of the Adirondacks.

- 8 *Oxalis filipes* Small, in Britton & Brown, Illus. Fl. 2: 349. 1897
Slender yellow wood sorrel

X. filipes Small, Fl. SE. U. S. 667. 1903

In dry soil and in open woods. Infrequent or locally abundant from Washington county to the St Lawrence westward, and southward across the State.

- 9 *Oxalis Brittoniae* Small, in Britton, Man. 577. 1901
Mrs Britton's yellow wood sorrel

X. Brittoniae Small, Fl. SE. U. S. 668. 1903

In fields, open woods and grassy places. Frequent or common in the southern part of the State, especially in dry or sandy soil, northward to Albany county and doubtless westward across the State.

- 10 *Oxalis europaea* Jordan, in F. W. Schultz, Arch. Fl. Fr. & Allem. 309-311. 1854
Tall yellow wood sorrel

O. stricta Trelease in Gray, Syn. Fl. 1¹: 366. 1897. Not L.

O. cymosa Small, Torr. Club Bul. 23: 267. 1896

O. corniculata Robinson, Jour. Bot. 44: 370. 1906; Gray, Man. ed. 7, 534. 1908. Not L.

X. cymosa Small, Fl. SE. U. S. 668. 1903

In woods, fields, thickets and low grounds, especially in recently cultivated soil or abandoned fields. Common throughout most sections of the State except the higher mountains. A common weed and doubtless of European origin.

Family 59 **LINACEAE** Dumort. Comm. Bot. 61. 1822

Flax family

LINUM (Tourn.) L. Sp. Pl. 277. 1753

Section *Eulinum* (*Linum* proper)

1 ***Linum usitatissimum*** L., l.c. Flax, linseed

Along roadsides, railroads and in waste grounds. Formerly a frequent weed. Adventive or naturalized from Europe or an escape from cultivation.

The marked diminution in the cultivation of this plant in this State has resulted in its becoming a comparatively rare species in most sections where once it was a frequent escape.

2 ***Linum humile*** Mill. Gard. Dict. ed. 8, No. 2, 1768

In fields and along railroads or in waste ground. A rare or infrequent adventive across the middle and southern portion of the State. Native of Europe.

3 ***Linum grandiflorum*** Desf. Fl. Atlant. 1: 277. 1800

Occasional in cultivation and rare as an escape from gardens or persistent about neglected grounds, chiefly in southern New York. Native of Europe.

Section *Linastrum*

Cathartolinum Reichenb. Handb. 307. 1837

Linopsis Reichenb., l.c.

Mesynium Raf. Fl. Tellur. 3: 33. 1837

Nezera Raf. New Fl. 4: 64. 1838

4 ***Linum striatum*** Walt. Fl. Car. 118. 1788

Rigid yellow flax

Nezera albiflora Raf. New Fl. 4: 64. 1838

L. diffusum Wood, Bot. & Flor. 66. 1870

Cathartolinum striatum Small, N. Am. Fl. 25: 71. 1907

In boggy or swampy depressions, sometimes in drier soil. Frequent on Long Island and Staten Island. Less common northward to the Hudson highlands and Newburgh.

5 ***Linum virginianum*** L. Sp. Pl. 279. 1753

Wild or slender yellow flax

Cathartolinum virginianum Reichenb. Handb. 307. 1837

Nezera virginiana Nieuwl. Am. Mid. Nat. 3: 152. 1913

In shaded situations or in dry fields. Infrequent across the State northward, outside of and chiefly south of the Adirondacks. Increasingly common southward.

In moist grounds. Common northward and westward in the State. Rare south of the Hudson highlands and not reported from south of the moraine on Long Island nor from Staten Island.

Family 61 **LIMNANTHACEAE** Lindl. Nat. Syst. ed. 2, 142.
1836

False mermaid family

FLOERKEA Willd. Neue Schrift. Ges. Nat. Fr. 3: 448. 1801

Floerkea proserpinacoides Willd., l.c. False mermaid

F. uliginosa Muhl. Cat. 36. 1813—Eaton, Man. 248. 1818—Raf. Am. Jour. Sci. 1: 374. 1819

F. palustris Nutt. Gen. 1: 229. 1818

Nectris pinnata Pursh, Fl. Am. Sept. 239. 1814

In marshes and along rivers and ponds and quite shallow waters. Infrequent across the State south of the Adirondacks.

Wet woods on flats of the Mohawk, three miles below Utica; banks of the Unadilla, *Gray*; Auburn, *Carey* (Paine, Cat. Pl. Oneida Co. 68. 1865). Gates, *Booth*; Chili, *Holzer*; Adams Basin, *Baxter*; Fairport, *Macauley*; Bergen, Genesee county and Wayne county (Proc. Rochester Acad. 3: 53. 1896). Syracuse, *Goodrich* (46th Rep't N. Y. State Mus. 41. 1893). Meadowdale, Albany county, *Peck* (50th Rep't 120. 1897). Scarce in Tompkins county, five localities given, *Dudley* (Cayuga Flora 18. 1886.) Tarrytown *Barnhart*; Richmond county, *Davis* (52d Rep't N. Y. State Mus. 651. 1899). Not recorded in the Flora of the Upper Susquehanna, by *Clute*.

Family 62 **ZYGOPHYLLACEAE** Lindl. Nat. Syst. 1830

Caltrop family

TRIBULUS (Tourn.) L. Sp. Pl. 386. 1753

Tribulus terrestris L., l.c. 387 Ground burnut, land caltrop

In waste places and on ballast. Rare in southern New York. Adventive from Europe.

Family 63 **RUTACEAE** Juss. Gen. 296. 1789

Rue family

ZANTHOXYLUM L. Sp. Pl. 270. 1753

Zanthoxylum americanum Mill. Gard. Dict. ed. 8, No. 2, 1768 (as *Xanthoxylum americanum*). Prickly ash, toothache tree

In woods and thickets. Common or frequent northward and westward across the State, outside of the higher Adirondacks, south to the highlands of the lower Hudson valley and rare in the eastern Susquehanna watershed.

PTELEA L. Sp. Pl. 118. 1753**Ptelea trifoliata** L., l.c.

Wafer ash, three-leaved hop tree

P. viticifolia Salisb. Prodr. 68. 1796

In rocky woods or rich hilly woodlands and thickets. Locally abundant in the Susquehanna valley, Chemung and Tompkins counties westward and southward. Wading River, Long Island *Miller* (27th Rep't N. Y. State Mus. 111. 1877), and on Staten Island (perhaps introduced).

Family 64 **SIMAROUBACEAE** DC. Bul. Soc. Philom. 2: 209. 1811

Ailanthus family

AILANTHUS Desf. Mem. Acad. Paris 1786: 265 *pl.* 8. 1789*Pongelion* (Rheed) Pierre, Fl. For. Cochinch. fasc. 19, sub. *t.* 294. 1893.

Not Adans.

Ailanthus altissima (*Mill.*) Swingle, Jour. Wash. Acad. Sci. 6: 495. 1916.

Tree of heaven, ailanthus

Toxicodendron altissimum Mill. Gard. Dict. ed. 8. 1768*Ailanthus glandulosus* Desf., l.c.*Rhus Cacodendron* Ehrh. Hann. Mag. 21: 225. 1783—Beitr. 3: 20. 1788.*A. Pongelion* J. F. Gmel. Syst. 2: 726. 1791*Pongelion glandulosum* Pierre, l.c.

Native of China. Introduced as an ornamental tree and now common and well established in southern and eastern New York, northward to Albany county and locally westward across the State.

Family 65 **POLYGALACEAE** Desv. Fl. Anjou. 333. 1827

Milkwort family

POLYGALA L. Sp. Pl. 701. 1753Subgenus *Triclisperma* (Raf.)*Triclisperma* Raf. Specch. 1: 117. 1814*Chamaebuxus* (Tourn.) Spach, Hist. Veg. Phan. 7: 125. 1839*Polygala*, Sect. *Chamaebuxus* DC. Prodr. 1: 331. 18241 **Polygala paucifolia** Willd. Sp. Pl. 3: 380. 1800

Fringed milkwort, wintergreen

P. purpurea Ait. Hort. Kew. 4: 244. 1812*P. uniflora* Michx. Fl. Bor. Am. 2: 53. 1803*T. grandiflora* Raf., l.c.*T. paucifolia* Nieuwl. Am. Mid. Nat. 3: 181. 1914

In moist rich woods. Rare on Long Island north of the moraine. Not reported from Staten Island. Rare in Westchester county. Increasingly abundant northward to Lake Champlain, lower elevations of the Adirondacks, and Lewis county, westward across the State to Lake Erie,

Forma *alba* Wheelock, Torr. Club Mem. 2: 142. 1891.

P. paucifolia var. *albiflora* Raf. Med. Bot. 2: 64. 1830

P. paucifolia var. *alba* Eights, in T. & G. Fl. N. Am. 1: 132. 1838. Torr.
Fl. N. Y. 1: 152. 1843

P. paucifolia forma *alba* House, N. Y. State Mus. Bul. 205-206: 27. 1917

P. paucifolia var. *albiflora* Knight, Rhodora 8: 66. 1906

A conspicuous and beautiful form of the species with pure white flowers, which occurs at a number of scattered localities throughout the State (See Mus. Bul. 205-206. p. 27).

Subgenus *Orthopolygala* (Chodat)

Sect. *Anthaloea* (Raf.)

Anthaloea Raf. New Fl. 4: 88. 1838

2 *Polygala polygama* Walt. Fl. Car. 179. 1788

Racemed milkwort

P. rubella Willd. Sp. Pl. 3: 875. 1800

A. rubella Raf., l.c.

A. polygama Raf.; Ind. Kew. 1: 143. 1893

In dry, rocky, or more usually sandy soil. Common across the State southward. Infrequent or locally common northward to Warren, Saratoga, Oneida and Lewis counties, and westward to Lake Erie.

Forma *albiflora* House, N. Y. State Mus. Bul. 243-244: 45. 1923, with white flowers occurs in Oneida county.

Sect. *Galypola* (Nieuwl.)

Galypola Nieuwl. Am. Mid. Nat. 3: 179. 1914

3 *Polygala incarnata* L. Sp. Pl. 701. 1753

Pink milkwort

G. incarnata Nieuwl., l.c. 180

A southern species, ranging from Ontario and New Jersey southward. Reported from Southampton, Long Island, *Taylor* (Fl. Vic. N. Y. 421. 1915).

Sect. *Plostaxis* (Raf.)

Plostaxis Raf. New Fl. 4: 87. 1838

4 *Polygala lutea* L. Sp. Pl. 705. 1753

Orange or yellow milkwort, wild bachelor's button

Plostaxis lutea Raf., l.c.

In pine-barren swamps, depressions and borders of marshes on Long Island. Not common.

Sect. *Timutua* (Blake)

Asemeia Raf. New Fl. 4: 88. 1838

Sexilia Raf., l.c. 87

Senega Spach, Hist. Veg. Phan. 7: 129. 1839

5 *Polygala cruciata* L. Sp. Pl. 706. 1753

Cross-leaved or marsh milkwort

In sandy swamps and depressions and the borders of salt marshes. Frequent or common on Long Island and Staten Island.

6 *Polygala brevifolia* Nutt. Gen. 2: 89. 1818

Short-leaved milkwort

In sandy swamps on Long Island and Staten Island. Infrequent.

7 *Polygala verticillata* L. Sp. Pl. 706. 1753

Whorled milkwort

In dry or moist soil, chiefly in open fields, on rocky slopes or in open woodlands. Common across the State outside of the Adirondacks and higher Catskills.

Var. *ambigua* (Nutt.) Wood, Bot & Flor. 80. 1870

P. ambigua Nutt. Gen. 2: 89. 1818

Common in dry soil in southern New York, and locally frequent northward to Albany county and reported from Whitesboro, Oneida county, *Gates*. Often insufficiently distinct from the typical species.

8 *Polygala viridescens* L. Sp. Pl. 705. 1753

Field or purple milkwort

P. sanguinea L., l.c.

P. purpurea Nutt., l.c. 89

P. viridescens var. *sanguinea* Farwell, Rept. Mich. Acad. Sci. 2: 54. 1901

In fields and meadows. Common across the State southward, especially on Long Island and Staten Island. Less common northward to Rensselaer, Saratoga and St Lawrence counties and westward to Lake Erie.

Forma *albiflora* (Millsp.) House, l.c. 55. (*P. sanguinea* var. *albiflora* Millsp. Fl. W. Va. 333. 1892), with white flowers, occurs locally, but rare.

9 *Polygala Nuttallii* T. & G. Fl. N. Am. 1: 670. 1840

Nuttall's milkwort

P. sanguinea Nutt. Gen. 2: 88. 1818. Not L. 1753

P. ambigua T. & G., l.c. 130. Not Nutt., 1818

P. Torreyi Chodat, Mem. Soc. Phys. Hist. Nat. Genev. 31²: 194. pl. 22. f. 26, 27. 1893. Not G. Don, 1831

In dry sandy soil, usually in open places or along the margins of marshes and depressions in the coastal plain of Long Island and Staten Island. Frequent.

10 *Polygala Senega* L. Sp. Pl. 704. 1753

Seneca snakeroot, mountain flax

Senega officinalis Spach, l.c. 120

In rocky woods. Frequent across the State northward but rare in the higher Adirondacks. Southward to Dutchess county, the Catskill mountains, hills of the Susquehanna watershed, Tioga and Chemung counties and westward to Lake Erie.

Family 66 **EUPHORBIACEAE** J. St. Hil. Expos. Fam. 276. 1805

Spurge family

CROTON L. Sp. Pl. 1004. 1753

Croton capitatus Michx. Fl. Bor. Am. 2: 214. 1803

Capitate croton, hogwort

In dry soil. New Brighton, Staten Island, *Miss C. O. Thompson* (Hollick & Britton; Torr. Club Bul. 9: 150. 1882). Probably adventive from the South.

CROTONOPSIS Michx. Fl. Bor. Am. 2: 185. 1803

Crotonopsis linearis Michx., l.c. pl. 46 Crotonopsis

In dry sandy soil, in Connecticut and New Jersey, southward and westward. Not reported from this State but to be looked for in the southeastern section.

ACALYPHA L. Sp. Pl. 1003. 1753

Ricinocarpus (Burm.) Kuntze, Rev. Gen. Pl. 2: 615. 1891

1 **Acalypha virginica** L., l.c. Virginia three-seeded mercury
R. virginicus Kuntze, l.c.

In woods, thickets or openings, usually in moist rich soil. Frequent or common across the State outside of the pine-barrens of Long Island.

2 **Acalypha gracilens** A. Gray, Man. 408. 1848

Slender three-seeded mercury

A. virginica var. *angustifolia* Torr. Fl. N. Y. 2: 173. 1843

A. virginica var. *gracilens* Muell.-Arg. Linnaea 34: 45. 1865

In dry woods and thickets. Infrequent from Lake George southward to northern Long Island and westward to Lake Erie.

Rafinesque (New Fl. 1: 44. 45. 1836), describes the following species which cannot be positively identified: viz. *A. brevipes*; *A. crenulata* (probably = *virginica*); *A. divaricata*; *A. echinata* and *A. rhomboidea*.

MERCURIALIS (Tourn.) L. Sp. Pl. 1035. 1753

Mercurialis annua L., l.c. Herb mercury

In waste places. Infrequent in southeastern New York and at Rochester. Adventive from Europe and Africa.

RICINUS (Tourn.) L. Sp. Pl. 1007. 1753

Ricinus communis L., l.c. Caster bean, castor-oil plant

Common in cultivation and rarely persistent in waste ground in the southern part of the State, but rarely established. Native of tropical regions.

EUPHORBIA L. Sp. Pl. 450. 1753

Subgenus *Chamaesyce*

Chamaesyce S. F. Gray, Nat. Arr. Br. Pl. 2: 260. 1821

1 *Euphorbia polygonifolia* L. Sp. Pl. 455. 1753

Seaside or knotweed spurge

E. maritima Nutt. Am. Phil. Soc. Trans. II. 5: 171

C. polygonifolia Small, Fl. SE. U. S. 708. 1903

In sand along the Atlantic coast on Long Island and Staten Island and up the Hudson river to Westchester county. Also on the shores of Lake Ontario and Lake Erie.

2 *Euphorbia glyptosperma* Engelm. Bot. Mex. Bound Surv. 187. 1859 Ridge-seeded spurge

C. glyptosperma Small, l.c. 712

In sandy soil. Shore of Lake Ontario, in St. Lawrence county, and locally on the Atlantic coast. Perhaps adventive from the southwest.

Irondequoit bay, *Killip & Woodams*. Woodville, Jefferson county, *House*. Edwards, St Lawrence county, *Mrs O. P. Phelps*. Fisher's Island, *Graves*. Hewlett, Long Island, *Taylor*.

3 *Euphorbia humistrata* Engelm., A. Gray, Man. ed. 2, 386. 1856 Hairy spreading spurge

E. littoralis Raf. Am. Mo. Mag. 2: 119. Dec. 1817. Not H. B. K. 1817

C. humistrata Small, l.c. 713

In dry soil. Albany county and the Hudson valley westward and southward across the State. Infrequent.

4 *Euphorbia maculata* L. Sp. Pl. 455. 1753

Milk purslane, spotted spurge

E. supina Raf. Am. Mo. Mag. 2: 119. 1817

C. maculata Small, l.c. 713

In dry soil. Common throughout the State, except in the extreme northern portions and the higher Adirondacks. Often a common weed in cultivated ground and along railroads.

- 5 *Euphorbia vermiculata* Raf. Am. Mo. Mag. 2: 206. Jan. 1818
Hairy spurge

E. maculata Michx. Fl. Bor. Am. 2: 212. 1803. Not L.
E. hypericifolia var. *hirsuta* Torr. Fl. N. & Mid. U. S. 331. 1824
E. hirsuta Wiegand, Bot. Gaz. 24: 51. 1897. Not Schur. 1853
E. Rafinesqui Greene, Pittonia 3: 207. 1897
C. Rafinesqui Small, in Britton & Brown, Illus. Fl. ed. 2, 2: 467. 1913
C. vermiculata House, N. Y. State Mus. Bul. 233-234: 8. 1922

In sandy or gravelly soil. Frequent or common across the State outside of the higher Adirondacks. Often a common weed in certain localities and along railroads.

- 6 *Euphorbia Preslii* Guss. Fl. Sic. Prodr. 1: 539. 1827
Large or upright spotted spurge

E. hypericifolia A. Gray, Man. 407. 1848. Not L. 1753
C. Preslii Arthur, Torreya 11: 260. 1912

In fields, thickets, shores of lakes and ponds and streams and along roadsides. Common across the State outside of the higher Adirondacks. Adventive within recent years into many parts of the Adirondacks along railroads and on cultivated ground. Sometimes referred to as *Euphorbia nutans* Lag.

Euphorbia hirta L. (*Chamaesyce hirta* Millsp.) native of tropical America is reported as adventive on Staten Island, Hollick (Torreya 22: 3. 1922).

Subgenus *Lepadena*

Lepadena Raf. Fl. Tellur. 4: 113. 1838
Dichrophyllum Kl. & Garcke, Monatsb. Akad. Bor. 1859: 249. 1859
Euphorbia, §. *Petaloma* Boiss.

- 7 *Euphorbia marginata* Pursh, Fl. Am. Sept. 607. 1814
White-margined spurge

E. leucoloma Raf. Herb. Phil. 1833
D. marginatum Kl. & Garcke, l.c.
L. marginata Nieuwl. Am. Mid. Nat. 2: 300. 1912

In waste places and along railroads. Infrequent or rare as an adventive from the western states in western, central and southern New York. Apparently sometimes also as an escape from cultivation.

Subgenus *Agaloma*

Agaloma Raf. Fl. Tellur. 4: 116. 1838
Villaris Raf., l.c. 114. Not Burm. 1768
Tithymalopsis Kl. & Garcke, Monatsb. Akad. Ber. 1859: 249. 1859
Euphorbia, §. *Tithymalopsis* Boiss.

- 8 *Euphorbia corollata* L. Sp. Pl. 459. 1753
Blooming or flowering spurge

T. corollata Kl. & Garcke, l.c.
A. corollata Raf. l.c. 117

In dry sandy soil. Rare from Lake George (*Mary Wood Daley*), westward to Lake Erie and southward. Not reported from Long Island but recorded for Staten Island, otherwise unknown in the southeastern part of the State.

9 *Euphorbia Ipecacuanhae* L. Sp. Pl. 455. 1753

Wild ipecac, ipecac spurge

Tithymalopsis Ipecacuanhae Small, Fl. SE. U. S. 716. 1903

Agaloma Ipecacuanhae Nieuwl. Am. Mid. Nat. 2: 299. 1912

In dry sandy soil on Long Island and Staten Island, but usually not in sand close to the seashore. Infrequent.

Subgenus *Tithymalus*

Tithymalus (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754

Keraselma Neck. Elem. 2: 353. 1790

Euphorbia, §. *Tithymalus* Pers.

10 *Euphorbia Lathyrus* L. Sp. Pl. 457. 1753

Caper or myrtle spurge

Tithymalus Lathyrus Hill, Hort. Kew. 172/3. 1768

In waste places. Infrequent in the southeastern part of the State, Monroe and Chautauqua counties, and doubtless elsewhere. Adventive from Europe.

11 *Euphorbia platyphyllus* L. Sp. Pl. 460. 1753

Broad-leaved spurge

T. platyphylla Hill, l.c. 172/4

Shores of Lake Champlain; along the St Lawrence river, Lake Ontario and Lake Erie. Reported by *Paine* (Cat. 123. 1865) from Herkimer and Oneida counties, perhaps erroneously. Naturalized from Europe, according to authorities.

12 *Euphorbia Helioscopia* L. Sp. Pl. 459. 1753

Sun or wart spurge, wartweed

T. Helioscopia Hill, l.c. 172/3

In waste places. Infrequent across the State south of the Adirondacks. Naturalized or adventive from Europe.

13 *Euphorbia lucida* Waldst. & Kit. Pl. Rar. Hung. 1: 54. 1802

Shining spurge

Tithymalus lucidus Kl. & Garcke, Abh. Akad. Berl. 1859: 66. 1859

E. nicaeensis of N. Y. Reports, not All.

In fields and on banks along the Susquehanna river in Chemung and Tioga counties. Naturalized from Europe.

- 14 **Euphorbia Cyparissias** L. Sp. Pl. 461. 1753 Cypress spurge
Tithymalus Cyparissias Hill, l.c. 172/4

Frequent or common along roadsides and in waste places. Naturalized from Europe.

The rarity of mature fruit or seed in this species, and a description of the seeds is noted by Deane (*Rhodora* 12: 57-61. 1910).

- 15 **Euphorbia Darlingtonii** A. Gray, Man. 404. 1848
Darlington's spurge
Tithymalus Darlingtonii Small, Fl. SE. U. S. 719. 1903

Said to occur in New York (Britton & Brown, Illus. Fl. ed. 2, 2: 474. 1913), but definite records are lacking.

- 16 **Euphorbia exigua** L. Sp. Pl. 456. 1753
Tithymalus exiguus Lam. Fl. Fr. 3: 100. 1778

In waste places about Buffalo, *D. F. Day* (*Rhodora* 11: 50. 1909). Adventive from Europe.

- 17 **Euphorbia Peplus** L. Sp. Pl. 456. 1753 Petty spurge
Tithymalus Peplus Hill, l.c. 172/3

In waste places. Locally abundant across the State south of the Adirondacks. Adventive or naturalized from Europe.

Subgenus *Poinsettia*

Poinsettia Graham, Edinb. N. Phil. Jour. 20: 412. 1836

- 18 **Euphorbia dentata** Michx. Fl. Bor. Am. 2: 211. 1803
Toothed spurge

Poinsettia dentata Kl. & Garcke, Monatsb. Akad. Berl. 1859: 253. 1859

Along railroad tracks at Despatch, Monroe county, *D. M. White*, 1920. Adventive from the West.

Family 67 **CALLITRICHACEAE** Lindl. Nat. Syst. ed. 2, 191. 1836
Water starwort family

CALLITRICHE L. Sp. Pl. 969. 1753

Stellaria (Ludw. 1737) MacM. Met. Minn. 345. 1893

- 1 **Callitriche terrestris** Raf. Med. Repos. II. 5: 358. 1808
Terrestrial water starwort

C. brevifolia Pursh, Fl. Am. Sept. 3. 1814

C. Austini Engelm. in A. Gray, Man. ed. 5, 428. 1867

C. deflexa var. *Austini* Hegelm. Ver. Bot. Ver. Brand. 9: 15. 1867

In shady by-ways on dry hilly ground. Staten Island, *Austin*, 1865 (Clinton, in 19th Rep't Regents 74. 1866).

2 *Callitriche palustris* L. Sp. Pl. 969. 1753

Vernal water starwort, water fennel

C. verna L. Fl. Suec. ed. 2, 4. 1755*C. intermedia*, *C. ovata*, *C. stellaria* Raf., Med. Repos. (III) 2: 408. 1811*C. vernalis* Koch, Syn. Fl. Germ. Ed. 2, 245. 1837*Stellaria verna* MacM. Met. Minn. 345. 1893.*S. palustris* Kuntze, Rev. Gen. Pl. 3²: 87. 1898

Usually in cold or running water, or on muddy banks where often overflowed or continually moist. Locally common throughout most sections of the State. Variable.

3 *Callitriche heterophylla* Pursh, Fl. Am. Sept. 3. 1814

Larger water starwort

? *C. spuria* Raf., l.c.*C. palustris* var. *intermedia* Hoffm.; Torr. Fl. N. Y. 2: 170. 1843

In ponds and slow streams, or their borders. Infrequent or local but probably widely distributed across the State.

Greenport, *Burnham & Latham* (Torreya 14: 245. 1914). Upper New Rochelle, *E. H. Day* (Torr. Club Bul. 13: 7. 1886). White lake outlet and confluent streams of other lakes and in Cummings creek, Oneida county, *Haberer* (Rhodora 7: 107. 1905).

4 *Callitriche autumnalis* L. Fl. Suec. ed. 2, 2. 1755

Autumnal or northern water starwort

C. palustris var. *bifida* L. Sp. Pl. 696. 1753*C. hermaphroditica* L. Cent. I. Pl. 31. 1755*C. foliosa*, *C. cruciata* Raf., l.c.*C. linearis* Pursh, l.c.*C. bifida* Morong, Torr. Club Mem. 5: 215. 1894

In flowing water. Infrequent across the northern part of the State and in western New York.

Lake Champlain. Streams in Newcomb and North Elba, *House*. Morristown, St Lawrence county, *Mrs O. P. Phelps*. Alexandria bay, and borders of Canadaraga outlet, *G. W. Clinton* (Paine, Cat. Pl. Oneida Co. 123. 1865).

Family 68 **EMPETRACEAE** Dumort. Fl. Belg. 106. 1827

Crowberry family

EMPETRUM (Tourn.) L. Sp. Pl. 1022. 1753**Empetrum nigrum** L., l.c.

Black crowberry, heathberry

Summit of Mount Marcy and Mount McIntyre, Essex county, and highest parts of Whiteface mountain, *Doctor Emmons* and *Professor Hall* (Torrey, Fl. N. Y. 2: 178. 1843). Indian Pass, McIntyre and Mount Wright, *Peck* (N. Y. State Mus. Bul. 28: 125. 1899). Whiteface, *Rowlee* (Rhodora 4: 150. 1902). Mount Marcy, *Killip*.

COREMA Don, Edinb. N. Phil. Jour. 15: 63. 1826

Endammia Raf. New Fl. 3: 49. 1838

Tuckermania Klotzsch. in Wieg. Archiv. 7: 248. 1841. Not Nutt.

Oakesia Tuckerm. in Hook. Lond. Jour. Bot. 1: 445. 1842

Corema Conradi Torrey; Loudon, Encycl. Trees 1092. 1842 — Fl.

N. Y. 2: 519. 1843

Conrad's broom crowberry

Empetrum Conradi Torrey, Ann. Lyc. N. Y. 4: 83. 1837

Endammia cricoides Raf. New Fl. 3: 49. 1838

Oakesia Conradi Tuckerm., l.c.

Tuckermania Conradi Klotzsch., l.c.

In rocky or sandy soil, southeastern New York. Rare.

Shawangunk mountains, Ulster county, *C. E. Smith* (36th Rep't N. Y. State Mus. 38. 1884); *Aubrey H. Smith* (Redfield in Proc. Phila. Acad. 35. 1882). Between Oyster Bay and Hempstead, Long Island, *Emmons* (Torrey, Fl. N. Y. 2: 519. 1843) but Redfield (Torr. Club. Bul. 11: 98. 1884) states that this is probably an error.

Family 69 **SPONDIACEAE** Kunth, Ann. Sc. Nat. 2: 362. 1824

ANACARDIACEAE Lindl. Nat. Syst. 1830

Sumac family

RHUS (Tourn.) L. Sp. Pl. 265. 1753

Toxicodendron (L. 1735) Kuntze, Rev. Gen. Pl. 153. 1891

Subgenus *S u m a c*

Rhus, sect. *S u m a c* DC. Prodr. 2: 67. 1825

1 **Rhus copallina** L. Sp. Pl. 266. 1753

Dwarf, black, upland or mountain sumac

Toxicodendron copallinum Kuntze, l.c.

In dry soil, often in rocky or sterile sandy situations. Common across the State outside of the higher Adirondacks, and absent from the pine-barrens of Long Island. Rare in western New York.

Var. **nesophila** House, N. Y. State Mus. Bul. 243-244: 55. 1923.

Similar to *R. copallina* in general appearance. Leaflets 13 to 17 in number, thicker in texture, less pointed, being merely acute or abruptly acuminate, smooth, somewhat shining and nearly glabrous or with a minute puberulence above, chiefly entire, rarely with 2 or 3 low, almost obsolete teeth; wings of the rachis very conspicuous and broad.

In moist thickets along the margin of salt marshes on Long Island.

2 **Rhus typhina** L. Amoen. Acad. 4: 311. 1760 Staghorn sumac

Datisca hirta L. Sp. Pl. 1037. 1753

R. canadensis Mill. Gard. Dict. ed. 8, No. 5, 1768

R. hirta Sudw. Torr. Club Bul. 9: 82. 1892. Not Harv. 1883

Toxicodendron typhinum Kuntze, l.c.

In dry or rocky soil, often in clearings, along old roads and on abandoned land. Common throughout the State, but rare on Long Island.

The rare form in which the leaves are incisely lobed is forma *laciniata* Wood (Am. Bot. & Flor. 73. 1870, as var.).

Datisca hirta L., represents a very common monstrosity of the species, in which the inflorescence reverts into abnormal leaves partly confluent with the aborted inflorescence, caused by the attack of an insect.

3 *Rhus glabra* L. Sp. Pl. 265. 1753

Smooth upland or scarlet sumac

R. carolinense Marsh. Arb. Am. 129. 1785

R. elegans Ait. Hort. Kew. 1: 366. 1789

R. oreophila Greene, Proc. Wash. Acad. Sci. 8: 177. 1906

R. ithacensis Greene, l.c. 178

R. pyramidata Greene, l.c. 180

Toxicodendron glabrum Kuntze, l.c. Not Mill.

In dry soil. Frequent or common throughout most sections of the State.

Rather variable throughout its range in the eastern states and most of the New York specimens seen appear to correspond to Doctor Greene's *R. ithacensis*, which may eventually prove to be of subspecific rank.

An apparent hybrid between *R. glabra* and *R. typhina*, was collected at Fort Edward, in 1875, by M. W. Vandenberg (state herbarium) and is described as *R. glabra borealis* Britton.

Subgenus *Schmaltzia*

Turpinia Raf. Med. Repos. II. 5: 352. 1808. Not Vent. 1803

Schmaltzia Desv. Jour. Bot. 1813: 229. 1813

Lobadium Raf. Am. Mo. Mag. 3: 357. 1819—Jour. Phys. 84: 98. 1819

Rhus, Sect. *Lobadium* DC., l.c.

4 *Rhus aromatica* Ait. Hort. Kew. 1: 367. 1789

Fragrant or sweet-scented sumac

Toxicodendron crenatum Mill. Gard. Dict. ed. 8, No. 5. 1768. Not *R. crenata* Thunb. 1803

R. canadensis Marsh. Arb. Am. 129. 1785. Not Mill., 1768

R. suaveolens Ait., l.c.

Lobadium amentaceum & *L. suaveolens* Raf., l.c.

Turpinia aromatica & *T. suaveolens* Raf., l.c.

Schmaltzia crenata Greene, Leaflets 1: 128. 1905

S. serrata & *S. crataegifolia* Greene, l.c. 128, 130

Toxicodendron crenatum Kuntze, l.c.

In rocky woods and on exposed banks and ledges. Locally common from Lake Champlain south to the Hudson highlands and westward across the State to St. Lawrence and Jefferson counties. Lake

Erie and southward into Pennsylvania. Rather common in the Hudson valley but not reported from the Adirondacks.

Subgenus *Toxicodendron*

Toxicodendron (Tourn.) Mill. Gard. Dict. 4th Abr. ed. 1754

Philostemon Raf. Fl. Ludov. 107. 1817

Vernix Adans. Fam. Pl. 2: 342. 1763

Rhus, Sect. *Venenatae* Engl. in DC. Monog.

Rhus, Sect. *Toxicodendron* Gray, Man. eds. 2-5

5 *Rhus Vernix* L. Sp. Pl. 265. 1753

Poison sumac, poison elder

T. pinnatum Mill. Gard. Dict. ed. 8, No. 4. 1768

R. venenata DC. Prodr. 2: 68. 1825

T. Vernix Kuntze, Rev. Gen. Pl. 153. 1891

In swamps. Locally common from Lake Champlain to Jefferson county, through the lower elevations of the Adirondacks, westward and southward throughout the State.

6 *Rhus radicans* L. Sp. Pl. 266. 1753 Poison ivy, poison oak

T. vulgare Mill., l.c. No. 1. 1768

Philostemon radicans Raf. l.c. 107

T. radicans Kuntze, l.c.

In thickets, woods and along fences and walls. Common throughout most sections of the State, and usually an extensive climber.

Statements in some works that the form climbing on trees usually has leaflets less lobed or cut, does not seem to hold true according to specimens from this State, where the high climbing form, at least north of the coastal plain, has usually coarsely toothed leaflets.

On Long Island, Peck has collected a climbing form with leaflets quite entire, firmer in texture, broadly rounded at the base, and the fruit in closer and more compact clusters.

In thickets on a small island off the shore of Staten Island, near Great Kills, occurs a form which Dr William H. Mansfield has described to me as a slender erect shrub, sometimes the woody stems 6 or 7 feet tall and sub-arborescent, not attached to any support; leaflets narrower than in typical *R. radicans*, and glabrous or nearly so. This might be what Miller (l. c.) described as *Toxicodendron glabrum*, but the specimen in the Miller herbarium is, according to Britton (Jour. Bot. 38: 317. 1900), true *R. radicans* L. (not the *Rhus glabra* of Linnaeus).

7 *Rhus Toxicodendron* L. Sp. Pl. 266. 1753 Poison oak

T. Toxicodendron Britton, in B. & B. Illus. Fl. ed. 2, 2: 484. 1913 (excl. syn. Michx. and Steud., as well as the descr. which is *Rhus quercifolia* Michx. of the southern states).

T. pubescens Mill. Gard. Dict. ed. 8, No. 2 1768 (excl. "*T. triphyllum glabrum*," etc. of Tourn.)

Rhus radicans var. *pubescens* Farwell, Rep't Mich. Acad. Sci. 2: 54. 1901

A low shrubby plant, the stems mainly imbedded in the soil and extensively spreading and branching; branches erect, 1 to 2 feet high; leaflets pinnately 3-foliolate, the terminal leaflet with petiolule 1-2 cm long; texture usually somewhat firmer and thicker than *Rhus radi-*

cans, the margins sinuate-lobed to nearly or quite entire or with a few low blunt teeth, dull green above, sparingly pubescent, glabrate with age; strongly veined beneath and hirsute, especially on the veins; fruit globose, creamy-white, 4-6 mm in diameter, usually in small, few-fruited (12-30 drupes) panicles.

In sandy, rocky or sterile soil, usually in open places or open woodlands. Locally common across the State outside of and chiefly south of the Adirondacks, especially in the sandy portions of Albany, Saratoga and Rensselaer counties southward, in central New York, the Ontario lowlands and shores of Lake Ontario and on Long Island and Staten Island.

Britton & Brown (1913) have restricted *R. Toxicodendron* to a species of the southern states (*R. quercifolia* Michx.), but I am inclined to agree with Doctor Greene, in applying this name to our more northern dwarf poison ivy or poison oak as it is more usually called.

Subgenus *Cotinus*

Cotinus (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754

Rhus, sect. *Cotinus* DC. Prodr. 2: 67. 1825

9 *Rhus Cotinus* L. Sp. Pl. 267. 1753

Cultivated or european smoke tree

C. coggygia Scop. Fl. Carn. ed. 2, 1: 220. 1772

Cotinus Cotinus Sargent, Gard. & For. 4: 340

Frequent in cultivation. Rarely escaped or established or persistent in abandoned grounds. Native of Europe.

Family 70 **ILICACEAE** Lowe, Fl. Mad. 2: 11. 1868

(*Aquifoliaceae* DC. Prodr. 2: 11. 1825)

Holly family

ILEX L. Sp. Pl. 125. 1753

Aquifolium (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754

Ageria Raf. Sylva Tellur. 46. 1838

Synstima Raf., l.c.

Section *Aquifolium*

1 *Ilex opaca* Soland. in Ait. Hort. Kew. 1: 169. 1789

American or white holly

I. Aquifolium & *I. canadensis* Marsh. Arb. Am. 63, 64. 1785

I. quercifolia Meerb. Pl. Select. Ic. t. 5. 1798

Ageria opaca Raf., l.c. 48

In moist woods. Rare in southeastern New York.

Formerly near the north end of New York Island. Rare on the north side of Long Island and on Staten Island.

Section *Prinos*

Prinos L. Sp. Pl. 330. 1753

2 *Ilex glabra* (L.) Gray, Man. ed. 2, 264. 1856

Inkberry, evergreen winterberry

Prinos glaber L., l.c.

Winteria triflora Moench, Meth. 74. 1794

Enneptia myricoides Raf. Sylva Tellur. 52. 1838

In sandy soil. Frequent on the south side of Long Island and on Staten Island.

3 *Ilex verticillata* (L.) Gray, l.c.

Virginia winterberry, black alder

Prinos verticillatus L., l.c.

P. Gronovii Michx. Fl. Bor. Am. 2: 236. 1803

P. confertus Moench, Meth. 481. 1794

In swamps and low or marshy places. Common on Long Island and throughout southern New York. Less common northward to Saratoga, Warren, Oneida, Oswego and Monroe counties.

Var. *Padifolia* (Willd.) T. & G. in Wats. Bibl. Index. 160. 1878

Prinos padifolius Willd., Enum. 394. 1809

Frequent northward to central New York.

Var. *cyclophylla* Robinson, reported as occurring on the shore of Lake Erie, occurs eastward to Oneida, Oswego and Saratoga counties. Britton places this as a synonym of *Ilex bronxensis*, but the thick, rugose character of the leaves seems to mark it as a close relative of the true *I. verticillata*.

Var. *tenuifolia* Torr. Fl. N. & Mid. U. S. 338. 1824

Northern winterberry

I. bronxensis Britton, Man. 604. 1901

Common in swamps and along the margin of lakes, ponds and streams across the northern part of the State and especially in the Adirondacks, westward to Lake Erie and southward to Long Island.

This is the common northern form of the Winterberry which has usually been referred to *Ilex verticillata*.

4 *Ilex laevigata* (Pursh) A. Gray, Man. ed. 2, 264. 1856

Smooth winterberry

Prinos laevigatus Pursh, Fl. Am. Sept. 220. 1814

In swamps and wet woods. Frequent northward from Rensselaer and Saratoga counties southward, and increasingly common across the southern part of the State. Reported from Onondaga county.

Forma *Herveyi* Robinson (Rhodora 10: 34. 1908) with drupes bright golden yellow in color is found in Massachusetts.

Section Prinoides

5 *Ilex montana* T. & G.; A. Gray, Man. 276. 1848

Large-leaved holly

Prinos ambigua Michx. Fl. Bor. Am. 2: 23. 1803*Ilex ambigua* Torr. Fl. N. Y. 2: 2. 1843. Not Ell. 1821*I. monticola* A. Gray, Man. ed. 2, 264. 1856*I. Amelanchier* var. *monticola* Wood, Bot. & Flor. 208. 1870*I. dubia* var. *monticola* Loesener, Nov. Act. Leop.-Carol. 78: 485. 1901

In mountainous woods. Infrequent or rare. Fulton county and the Catskill region southward and westward.

Woodsworth lake and Vlei, Fulton county, *C. P. Alexander* (N. Y. State Mus. Bul. 167: 35. 1913). Catskill mountains, *Carey* (Torrey, l.c.). Lake Mohonk and Minnewaska, *Peck* (50th Rep't N. Y. State Mus. 123. 1897; 51st Rep't 297. 1898). Rock City, Cattaraugus county, *G. W. Clinton* 19th Rep't N. Y. State Museum 205. 1866). Clay swamp, Onondaga county, *Mrs M. O. Rust* (Torr. Club Bul. 10: 67. 1883), but not verified.

NEMOPANTHUS Raf. Am. Jour. Sci. 1: 377. 1819—Am. Mo. Mag. 357. 1819 [*Nemopanthus* in Jour. Phys. 89: 96. 1819]

Illicioides Dumort. Bot. Cult. 4: 127. pl. 4. Hyponym. 1802

Nemopanthus mucronata (L.) Trelease, Trans. Acad. St Louis 5: 349. 1889 Wild or mountain holly

Vaccinium mucronatum L. Sp. Pl. 350. 1753*Ilex canadensis* Michx. Fl. Bor. Am. 2: 229. pl. 49. 1803. Not Marsh. 1785*N. fascicularis* Raf. Jour. Phys. 89: 97. 1819*I. delicatula* B. S. Barton, Fl. Virg. 67. 1812*N. canadensis* DC. Mem. Soc. Gen. 1: 450. 1821*Prinos longipes* Raf. Sylva Tellur. 50. 1838*Nuttallia canadensis* DC. Rapp. Jard. Genev. 44. 1821*Illicioides mucronata* Britton, Torr. Club Mem. 5: 217. 1894

In swamps and low grounds. Common across the State northward. Less common in the southern part of the State in swamps at higher elevations, and rare on Long Island and Staten Island.

Family 71 **CELASTRACEAE** Lindl. Nat. Syst. ed. 2, 119. 1836
Staff-tree family

EUONYMUS (Tourn.) L. Sp. Pl. 197. 17531 **Euonymus americanus** L., l.c.

Strawberry bush

E. sempervirens Marsh. Arb. Am. 44. 1788*E. muricatus* Raf. New Fl. 3: 59. 1837

In low woods, southern and western portions of the State. Rare.

Western New York (*Torrey*, Fl. N. Y.), to which *Paine* (Cat. p. 70) adds: western counties, *Kneiskern*; Genesee river, *Sartwell*. Infrequent or rare on Long Island, Staten Island and northward to Bronx county.

2 **Euonymus obovatus** Nutt. Gen. 1: 155. 1818

Running strawberry bush

E. americanus var. *obovatus* T. & G.; Gray, Gen. 2: 188. 1849

In low woods, southwestern and western part of the State. Rare.

Two miles south of Apalachin, Tioga county, *Fenno* (Clute, Fl. Upper Susquehanna 23. 1898). Silver Creek, Chautauqua county, *L. W. Hahn* (N. Y. State Mus. Bul. 75: 14. 1904). Near Brockport, Monroe county, *Lennon* (Proc. Rochester Acad. 3: 54. 1896).

3 **Euonymus atropurpureus** Jacq. Hort. Vind. 2: 5. *pl.* 120. 1772

Burning bush, wahoo

E. caroliniensis Marsh. Arb. Am. 43. 1785

In woods and thickets. Infrequent or rare from Oneida and Schuyler counties westward and southward. Increasingly common toward the southwest.

Oneida county, *H. Lathrop* (Paine, Cat. Pl. Oneida Co. 70. 1865). Wayne county, *Hankenson*; Monroe county, *Baxter*, *Bradley*; *Laney*, etc. (Proc. Rochester Acad. 3: 54. 1896). Geneseo, *Baxter* (Proc. Rochester Acad. 5: 10. 1910). Watkins, Schuyler county, *Dudley* (Cayuga Flora 20. 1886). Collins, Erie county, *Dr Anne E. Perkins*.

4 **Euonymus europaeus** L. Sp. Pl. 197. 1753

Spindle tree

Native of Europe. Formerly much planted. Now found chiefly as an escape or naturalized tree or shrub in copses along roadsides and open woods in numerous localities across the State south of the Adirondacks, especially in the Hudson valley.

CELASTRUS L. Sp. Pl. 196. 1753

Celastrus scandens L., l.c.

Shrubby or climbing bittersweet, waxwork

In moist or rich soil. Frequent or common throughout the State, especially in hilly or rocky localities.

Family 72 **STAPHYLEACEAE** DC. Prodr. 2: 2. 1825

Bladdernut family

STAPHYLEA L. Sp. Pl. 270. 1753

Staphylea trifolia L., l.c.

American bladdernut

In moist woods and thickets. Lake Champlain through the southern Adirondacks to Jefferson county and westward to Lake Erie. More abundant southward in the State. Rare or local north of the Mohawk valley.

Family 73 **ACERACEAE** J. St. Hil. Expos. Fam. 2: 15. 1805

Maple family

ACER (Tourn.) L. Sp. Pl. 1055. 1753

Subgenus *Eucacer*

1 **Acer saccharinum** L. Sp. Pl. 1055. 1753

Silver, soft or white maple

A. glaucum Marsh. Arb. Am. 2. 1785

A. dasycarpum Ehrh. Beitr. 4: 24. 1789

A. eriocarpum Michx. Fl. Bor. Am. 2: 253. 1803

Frequent or common along streams throughout most sections of the State except the higher Adirondack region.

2 **Acer platanoides** L. Sp. Pl. 1055. 1753

Norway maple

Common in cultivation and occasionally established. Native of Europe.

3 **Acer Pseudoplatanus** L., l.c.

Sycamore maple

Frequent in cultivation and rarely spreading in moist soil from wind-blown seed. Native of Europe.

4 **Acer rubrum** L., l.c.

Red, scarlet or swamp maple

In swamps and wet soil. Common in nearly all sections of the State.

Var. *tridens* Wood, Class-book 286. 1860

? *A. carolinianum* Walt. Fl. Car. 251. 1788

A. rubrum β. T. & G., Fl. N. Am. 1: 249. 1838

A. microphyllum Pax, Bot. Jahrb. 7: 180. 1886

A. tomentosum Desf.; Pax. in Engl. Pflanzenreich IV. 163: 38. 1902 (cf. Rehder, Rhodora 9: 116. 1907)

In wet or moist soil. Infrequent or rare in the southern portion of the State.

5 **Acer saccharum** Marsh. Arb. Am. 4. 1785

Sugar or rock maple

A. saccharinum Wang. Amer. 36. pl. 2. f. 26. 1787. Not L.

A. barbatum Michx. Fl. Bor. Am. 2: 252. 1803

In rich woods. Common throughout the State except on southern Long Island, where it is infrequent or rare. The Var. *glaucum* (Pax.) Sargent, an extreme which is rarely distinct enough to merit varietal recognition.

Var. *nigrum* (Michx.) Britton, Trans. N. Y. Acad. Sci. 9: 10. 1889 (*Acer nigrum* Michx. f. Hist. Arb. 2: 238. pl. 16. 1810), a commonly recognized form, but which also is not always clearly distinct from typical *A. saccharum*. It is rather common across the

State but apparently does not occur in the Adirondacks. It has sometimes been regarded as a distinct species.

6 *Acer pennsylvanicum* L. Sp. Pl. 1055. 1753

Striped maple, moosewood

A. striatum DuRoi, Diss. Inaug. 58. 1771

A. canadense Marsh. Arb. Am. 3. 1785

In rocky or moist woods. Common northward in the State. Less common in the western counties and southward to the Susquehanna valley, the southern Catskills and the Hudson highlands.

7 *Acer spicatum* Lam. Encycl. 2: 381. 1786 Mountain maple

A. pennsylvanicum Marsh. Arb. Am. 2. 1785. Not L.

A. montanum Ait. Hort. Kew. 3: 435. 1789

In damp rocky woods and swamps. Common northward in the State. Less frequent toward the south and very rare south of the Hudson highlands. Not found on Long Island or Staten Island.

Subgenus *Negundo* Maxim.

Negundo (Ray) Ludwig-Boehmer, Defin. Pl. 508. 1760

Rulac Adans. Fam. Pl. 2: 283. 1763

Negundium Raf. Med. Repos. II. 5: 352. 1808

Acer, Sect. *Negundo* Koehne

8 *Acer Negundo* L. Sp. Pl. 1056. 1753

Box elder, ash-leaved maple

Negundo aceroides Moench, Meth. 334. 1794

Negundium fraxinifolium Raf., l.c.

Negundo Negundo Karst. Deutsch. Fl. 596. 1880-83

Rulac Negundo A. S. Hitchc. Spr. Fl. Manhattan (Kan.) 6. 1894

Along streams and lake shores. Central and western New York westward and southward. Common in other sections of the State, outside of the higher mountains as an introduced tree and occasionally established and spreading.

Var. *violaceum* Kirchner, in Kirch. & Petzold, Arb. Mosc. 190.
1864

Rulac Nuttallii Nieuwl. Am. Mid. Nat. 2: 137. 1911

Negundo Nuttallii Rydb. Torr. Club Bul. 40: 55. 1913

This rather distinct variety is frequent throughout the western and southern sections of the State, but probably largely if not entirely introduced from farther west.

Family 74 **AESCULACEAE** Lindl. Orb. Dict. 1: 155. 1841

Buckeye family

AESCULUS L. Sp. Pl. 344. 1753

Hippocastanum [Tourn.] Mill. Gard. Dict. 4th Abr. ed. 1754

Pavia [Boerh.] Mill., l.c.

Paviana Raf. Fl. Ludor. 87. 1817

Aesculus Hippocastanum L., l.c.

Horse-chestnut

H. vulgare Tourn.; Mill., l.c.; Gaertn. Fr. & Sem. 2: 135. t. 3. 1791

Pavia Hippocastanum Kuntze, Rev. Gen. Pl. 146. 1891 (as *Pawia*).

Very common in cultivation and frequent as an escape in eastern and southern New York. Native of southern Europe or Asia.

Family 75 **SAPINDACEAE** R. Br. Exp. Congo, App. 1818

Soapberry family

CARDIOSPERMUM L. Sp. Pl. 366. 1753

Cardiospermum Halicacabum L., l.c. Balloon vine, heartseed

Native of tropical America and rare as an adventive in ballast about New York City.

Family 76 **FRANGULACEAE** DC. Fl. Franc. 4: 619. 1805

Rhamnaceae Desv. Fl. Anjou. 355. 1827

Buckthorn family

RHAMNUS (Tourn.) L. Sp. Pl. 193. 1753

1 **Rhamnus cathartica** L., l.c.*

Buckthorn

In dry soil. Escaped from cultivation in many localities outside of the higher mountains and especially in eastern and southern New York. Native of Europe and northern Asia.

2 **Rhamnus alnifolia** L'Her. Sert. Angl. 5. 1788

Dwarf alder, alder-leaved buckthorn

R. franguloides Michx. Fl. Bor. Am. 1: 153. 1803

Girtanneria alnifolia & *franguloides* Raf. Sylva Tell. 28. 1838

In swamps and bogs. Frequent or common northward in the State. Less frequent southward to Columbia, Ulster and Broome counties.

* *Rhamnus caroliniana* Walt. recorded by Leggett (24th Rep't N. Y. State Mus. 56. 1872) from roadsides between Hunter's Point and Flushing, Long Island, is probably *R. cathartica* L.

3 **Rhamnus Frangula** L. Sp. Pl. 193. 1753

Alder buckthorn, black dogwood

In bogs on Long Island. Rare. Naturalized from Europe.

CEANOTHUS L. Sp. Pl. 195. 1753

1 **Ceanothus americanus** L., l.c.

New Jersey tea, redroot

C. trinervis Moench, Meth. 651. 1794

C. officinalis Raf. Med. Bot. 2: 205. 1825

C. perennis Pursh, Fl. Am. Sept. 167. 1814

In dry open woods or sandy or rocky fields. Frequent or locally common across the State south of the Adirondacks.

2 **Ceanothus herbaceus** Raf. Med. Repos. (II) 5: 360. 1808

Smaller redroot

C. ovatus Desf. Hist. Arb. 2: 381. 1809

C. ovalis Bigel. Fl. Bost. ed. 2, 92. 1824

In rocky places and open woods. Frequent in the southern and southeastern parts of the State. Rare or local northward to the west shore of Lake Champlain and to Jefferson county, *Gray* (Ann. Lyc. N. Y. 3: 224. 1824)

Family 77 **VITACEAE** Lindl. Nat. Syst. ed. 2, 30. 1836

Grape family

VITIS (Tourn.) L. Sp. Pl. 202. 1753*

1 **Vitis Labrusca** L., l.c. 203

Northern fox grape

V. vulpina Bartram, Med. Rep. II. 1: 21. 1803. Not L.

V. Blandi Prince, Vine, 177. 1830.

Rare in the upper Hudson valley. More frequent southward to Long Island and westward to the Chemung valley and the lake region of central and western New York. Infrequent or local on the Ontario lowlands and the extreme western part of the State.

2 **Vitis aestivalis** Michx. Fl. Bor. Am. 2: 230. 1803

Summer grape

V. sylvestris, *V. arancosus*, *V. americana* Bartram, l.c. 21, 23

V. Nortoni Prince, Vine, 186. 1830

V. bracteata LeConte, Proc. Phila Acad. 6: 271. 1854

In thickets and along streams. Frequent or common in the Delaware and Susquehanna regions, southward and westward. Rare or local eastward to the Hudson valley.

* For a complete account of the native species of grape, and the horticultural varieties, see Hedrick, Grapes of New York, Rep't N. Y. Agric. Exp. Sta. II. (1908).

- 3 *Vitis argentifolia* Munson, Proc. Prom. Agr. Sci. 59. 1887
Blue or winter grape

V. bicolor LeConte, l.c. 272. Not Raf.

V. LeConteana House, Am. Mid. Nat. 7: 128. 1921

In woods and thickets. Infrequent in the higher Adirondacks, increasingly common at lower altitudes across the State northward, and common southward and westward throughout most sections of the State.

x *Vitis Slavinii* Rehder (Jour. Arnold Arb. 3: 43. 1922), [*V. LeConteana* x *vulpina*], a natural hybrid, is reported as having been collected by *Slavin & Horsey* on the banks of the Genesee river, Rochester.

- 4 *Vitis vulpina* L., l.c. 203 Riverside or sweet-scented grape

V. serotina Bartram, l.c. 22

V. odoratissima Donn, Hort, Cantab. ed. 6, 62. 1811

V. riparia Michx. Fl. Bor. Am. 2: 231. 1803

V. cordifolia var. *riparia* Gray, Man. ed. 5, 113. 1867

V. vulpina var. *syrticola* Fernald & Wiegand, Rhodora 25: 212. 1923

Along rocky river and stream banks and on mountain sides. Frequent or common northward, but rare or largely absent from south of the Hudson highlands and on Long Island and Staten Island. Hybridizes with *V. Labrusca* and *V. argentifolia*.

- 5 *Vitis novae-angliae* Fernald, Rhodora 19: 146. 1917
New England grape

Menands, Albany county, *Peck*. The range of this species doubtless extends well into the Hudson valley and perhaps even of more general distribution in the State, but is not as distinct as some of the other species.

- 6 *Vitis cordifolia* Michx. Fl. Bor. Am. 2: 231. 1803
Chicken grape, frost grape

V. pullaria LeConte, l.c. 273

Moist thickets and along streams. Occasional from Dutchess county southward, and reported from Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 54. 1896).

Vitis cinerea Engelm.; Gray's Man. ed. 5, 679. 1867; Sweet winter grape, is reported from New York by Hedrick (Grapes of N. Y. 131. 1908), but we have no other record of its occurrence in this state.

PSEDERA Neck. Elem. 1: 158. 1790

Quinaria Raf. Am. Man. Grapes 6. 1830. Not Lour. 1790

Parthenocissus Planch. in DC. Mon. Phan. 5: Pt. 2, 447. 1887

- 1 *Psedera quinquefolia* (L.) Greene, Leaflets 1: 220. 1906
Virginia creeper

Hedera quinquefolia L. Sp. 202. 1753
Vitis quinquefolia Lam. Ill. 2: 135. 1793
Vitis hederacea Ehrh. Beitr. Beitr. 6: 85. 1791
Cissus hederacea Pers. Syn. 1: 143. 1805
Ampelopsis quinquefolia Michx. Fl. Bor. Am. 1: 160. 1803
Parthenocissus quinquefolia Planch., l.c. 448

In woods and thickets, especially along streams and in moist or damp thickets. Common in most sections of the State, but rare or absent in the higher Adirondacks.

Var *hirsuta* (Pursh) B. L. Robinson, Rhodora 10: 26. 1908

Cissus hederacea var. *hirsuta* Pursh, Fl. Am. Sept. 170. 1814
Ampelopsis hirsuta R. & S. Syst. 5: 321. 1819
Parthenocissus quinquefolia var. *hirsuta* Planch., l.c. 449
P. hirsuta Small, Fl. SE. U. S. 759. 1903

Apparently of nearly the same range in this State as the typical form of the species, but somewhat more common southward. For additional synonymy see Rehder (Trees & Shrubs 1: 184-185. 1905).

2 *Pseodera vitacea* (Knerr) Greene, Leaflets 1: 220. 1906

Ampelopsis quinquefolia var. *vitacea* Knerr, Bot. Gaz. 18: 70. 1893
Parthenocissus vitacea Hitchc. Spr. Fl. Manhattan 26. 1894
A. hederacea var. *dumetorum* Focke, Abh. Nat. Ver. Bremen 4: 559. 1875
Cissus quinquefolia Sims, Bot. Mag. 51: pl. 2443. 1824
Quinaria quinquefolia Koehne, Gartenfl. 41: 402. 1892. Not Raf.
Parthenocissus Spaethii Graebn. Gartenfl. 49: 274. 1900
P. laciniata Small, Fl. SE. U. S. 759. 1903
Pseodera dumetorum Rehder, Trees & Shrubs 1: 187. pl. 89. 1905

Differing chiefly from *P. quinquefolia*, in the less branched tendrils without disks, in the distinctly cymose corymbs, green under surfaces of the leaflets and their deeper and sharper serrations.

In low or moist thickets. Infrequent or rare across the northern part of the State. Local or rare southward to Rensselaer county, the Catskill mountains and westward to Lake Erie.

Family 78 **TILIACEAE** Gerard, Fl. Galloprov. 1761
 Linden family

TILIA (Tourn.) L. Sp. Pl. 514. 1753

1 *Tilia americana* L., l.c. Basswood, American linden, whitewood
T. caroliniana Marsh. Arb. Am. 154. 1785
T. glabra Ventenat, Ann. Hist. Nat. 2: 62. 1800; Mem. Acad. Paris 4: 9. pl. 2. 1802
T. canadensis Michx. Fl. Bor. Am. 2: 306. 1803
T. nigra Borkh. Forstbot. 2: 1219. 1803

In rich woods and along streams and river bottomlands. Common

in most sections of the State and in the Adirondacks to 2500 or 3000 feet altitude.

The Linnaean type of *T. americana* is said by Sargent to be impossible of determination and is probably not the northern glabrous-leaved tree usually so-called. It seems best however, to retain the name for the common northern tree, as described by Aiton, and as accepted by practically all authors since. Sargent adopts the name *T. glabra* Vent. for our northern tree, although Marshall's name has priority over it.

2 *Tilia negeta* Spach, Ann. Sci. Nat. II 2: 140. *t* 15. 1834

T. laxiflora Pursh, Fl. Am. Sept. 363. 1814. Not Michx.

T. americana Marsh. Arb. Am. 153. 1785; Curtis, Rep. Geol. Surv. N. C. 3: 79. 1860. Not L.

T. pubescens Watson & Coulter; Gray, Man. ed. 6, 71. 1889 (as to Long Island reference)

In rich or moist woods and especially along the banks of streams and lakes. Frequent in central New York from Madison and Onondaga counties westward and southward, and in the lower Hudson valley and on Long Island and Staten Island.

East side Canadice lake, near outlet, *Peck* (49th Rep't N. Y. State Mus. 15. 1896, as *T. heterophylla*). Canandaigua lake, *House*. Camillus and Marcellus, Onondaga county, *Peck* (50th Rep't 120. 1897, as *T. heterophylla*). Rochester, *Dunbar*. Letchworth Park, *Nash* (*Torrey* 7: 212. 1907).

3 *Tilia Michauxii* Nutt. Silva 1: 92. 1842

T. alba Michx. f. Hist. Arb. Am. 3: 315. *t* 2. 1813. Not L.

T. eburnea Ashe, Bot. Gaz. 33: 230. 1902

T. heterophylla var. *Michauxii* Sarg. Bot. Gaz. 66: 506. 1918

Along streams and in moist woods or on rocky banks. Infrequent or rare in western New York and in the southern tier of counties bordering on Pennsylvania, from Broome county, westward.

Several species and varieties of *Tilia*, native of Europe and Asia are common in cultivation, but as yet none of them have been reported as spreading or inclined to become naturalized.

Family 79 MALVACEAE Neck. Act. Ac. Theod. Palat. 2: 488.

1770

Mallow family

ALTHAEA L. Sp. Pl. 686. 1753

1. *Althaea officinalis* L., l.c.

Marsh mallow, wymote'

In salt marshes on western Long Island, Oyster Bay, Flushing, Port Washington, etc. Locally common. Naturalized from Europe. Waste places, Rochester, *D. M. White*.

2 **Althaea rosea** Cav. Diss. 2: 91. *pl.* 29. *f.* 3. 1790

Hollyhock

Native of southern Europe and Asia. Common in cultivation and occasionally persistent in waste places, rarely or perhaps never established permanently.

MALVA (Tourn.) L. Sp. Pl. 687. 1753

1 **Malva sylvestris** L., l.c. 689 High mallow

In waste places and along roadsides. Sparingly adventive from Europe, especially in Westchester and Monroe counties, and occasionally elsewhere.

2 **Malva rotundifolia** L., l.c. 688

Low, dwarf or running mallow, cheeses

In waste places. Common throughout nearly all sections of the State. Naturalized from Europe.

3 **Malva verticillata** L., l.c. 689 Whorled or curled mallow

M. crispa L. Sp. Pl. ed. 2, 970. 1763

In waste places and along roadsides. Sparingly naturalized in a few localities. Native of Europe.

4 **Malva moschata** L. Sp. Pl. 690. 1753

Musk mallow, musk plant

In waste places and along roadsides and railroads. Frequent or common in many parts of the State. Naturalized from Europe.

5 **Malva Alcea** L., l.c. 689 European or vervain mallow

In waste places. Occasionally escaped from gardens or established. Reported from Buffalo and vicinity in 1865 by Clinton. Native of Europe.

SIDA L. Sp. Pl. 683. 1753

Sida spinosa L., l.c. Prickly sida, Indian or false mallow

In waste places and roadsides in southeastern New York. Rare. Reported from as far north as Peekskill by *Mead* (Torrey, Fl. N. Y. 1: 114. 1843). Perhaps adventive from New Jersey southward where it is native.

ABUTILON (Tourn.) Mill. Gard. Dict. abr. ed. 4. 1754

Abutilon Abutilon (L.) Rusby, Torr. Club Mem. 5: 222. 1894

Velvetleaf, Indian mallow

Sida Abutilon L. Sp. Pl. 685. 1753

A. Theophrasti Medic. Malv. 28. 1787

A. Avicennae Gaertn. Fr. & Sem. 2: 251. *pl.* 135. 1791

In waste places. Frequent or common in many sections of the State, outside of the higher mountains. Naturalized from Asia, and common as a weed in all warm countries.

HIBISCUS L. Sp. Pl. 693. 1753

Section Euhibiscus

Hibiscus Sect. *Euhibiscus*, **Malvavisoides* Robinson, Syn. Fl. 1¹: 333. 1897

Hibiscus palustris L., l.c. Mallow rose, swamp rose mallow

H. Moscheutos of N. Y. reports. Not L.

H. opulifolius Greene, Leaflets 2: 65. 1910

In brackish marshes along the coast of Long Island and Staten Island. Less frequent up the Hudson river to Peekskill. Marshes about Onondaga lake, along the Seneca river, outlet of Cayuga lake, the Montezuma marshes, and rare along Lake Ontario in Wayne and Monroe counties. Also reported from Lake Erie.

Forma *Peckii* House (*H. Moscheutos* forma *Peckii* House, N. Y. State Mus. Bul. 243-244: 54. 1923) with pure white petals, occurs at Patchogue, Long Island, where it was collected by Doctor Peck.

2 *Hibiscus oculiroseus* Britton, Jour. N. Y. Bot. Gard. 4: 220. 1903
Crimson-eye rose mallow

In salt marshes on Long Island, Staten Island and in New Jersey. Infrequent.

Section Ketmia

Ketmia (Tourn.) Mill. Gard. Dict. abr. ed. 4. 1754

Hibiscus, ****Ketmia* Robinson, l.c.

3 *Hibiscus syriacus* L., l.c. 695
Shrubby althaea or rose of Sharon

Ketmia syriaca Scop. Fl. Carn. ed. 2, 2: 45. 1772

Common in cultivation and sparingly escaped or established in some localities, or long persistent in abandoned or neglected grounds. Native of western Asia.

TRIONUM (L.) Medic. Malv. 46. 1787

Trionum Trionum (L.) Wooton & Standley, Contr. U. S. Nat. Herb. 19: 417. 1915

Bladder ketmia, flower-of-an-hour, modesty

Hibiscus Trionum L. Sp. Pl. 697. 1753

T. annuum, and *T. frutescens* Medic., l.c. 47

T. diffusum Moench, Meth. 618. 1794

H. Collinsiana Nutt. in T. & G. Fl. N. Am. 1: 237. 1838

In waste places, fields and roadsides. Occasionally or locally established or escaped from cultivation. Native of southern Europe.

- KOSTELETZKYA** Presl. Rel. Haenk. 2: 130. *pl.* 70. 1836
Pentagonocarpus (Michx.) Kuntze, Rev. Gen. Pl. 73. 1891
Kosteletzkya virginicia (L.) A. Gray, Gen. 2: 80. *pl.* 132. 1849
 Virginia kosteletzkya

Hibiscus virginica L. Sp. Pl. 697. 1753
H. clypeatus Walt. Fl. Car. 177. 1788
H. pentaspermus Nutt. Am. Jour. Sci. 5: 298. 1822
Pavonia virginica Spreng. Syst. 3: 98. 1826
Pentagonocarpus virginicus Kuntze, l.c.

In salt marshes. Rare on the north side of Long Island near the western end. Increasingly common along the coast south of our borders.

ANODA Cav. Diss. 1: 38. *t.* 10. *f.* 3. 1785

- Anoda triangularis** (Humb. & Bonpl.) DC. Prodr. 1: 459. 1824
Sida triangularis Humb. & Bonpl.; Willd. Enum. 725. 1809

Native of tropical America. Adventive on Staten Island, *Hollick* (Torreya 22: 3. 1922).

Melochia corchorifolia L. Sp. Pl. 675. 1753 [**BUETTNERIACEAE** R. Br. (*Sterculiaceae* H.B.K.)], native of tropical America, is reported by *Hollick* (Torreya 22: 3. 1922), as adventive on Staten Island.

Family 80 **HYPERICACEAE** Lindl. Nat. Syst. ed. 2, 77. 1836
 St John's-wort Family

ASCYRUM L. Sp. Pl. 787. 1753

- 1 **Ascyrum stans** Michx. Fl. Bor. Am. 2: 77. 1803
 St Peter's-wort

In dry or sandy depressions. Rare in Suffolk county on Long Island.

- 2 **Ascyrum hypericoides** L. Sp. Pl. 788. 1753
 St Andrew's cross

A. Crux-Andreeae L. Sp. Pl. ed. 2, 1197. 1763. Not L. 1753
A. multicaule Michx., l.c.

In dry sandy soil. Uncommon on Long Island and Staten Island.

HYPERICUM (Tourn.) L. Sp. Pl. 783. 1753Section *R o s c y n a**R o s c y n a* Spach. Ann. Sci. Nat. II 5: 364. 1836**1 Hypericum Ascyron** L. Sp. Pl. 783. 1753

Great or giant St John's-wort

H. pyramidatum Ait. Hort. Kew. 3: 103. 1789*R. americana* & *R. Gmelini* Spach, l.c.*H. amplexicaule* Lam. Encycl. 4: 147. 1796*H. ascyroides* Willd. Sp. Pl. 3: 1443. 1803*H. macrocarpum* Michx. Fl. Bor. Am. 2: 82. 1803

Banks of streams and in low grounds. Lake Champlain and Washington county west to St Lawrence county and Lake Erie southward to Sullivan and Ulster counties and the counties bordering on Pennsylvania. Infrequent or locally abundant.

2 Hypericum Kalmianum L. Sp. Pl. 783. 1753

Kalm's St John's-wort

H. Bartramium Mill. Gard. Dict. ed. 8, No. 10. 1768

In sandy or rocky soil in the vicinity of Niagara Falls. Otherwise chiefly west and south of our borders.

Section *M y r i a n d r a**M y r i a n d r a* Spach, Ann. Sci. Nat. II. 5: 364. 1836*B r a t h y d i u m* Spach, l.c. 365**3 Hypericum prolificum** L. Mant. 1: 106. 1767

Shrubby St John's-wort

Myriandra ledifolia Spach, l.c.*H. rosmarinifolium* T. & G. Fl. N. Am. 1: 158. 1838. Not Lam.

In sandy or rocky soil. Local.

Hannibal, Oswego county, *L. L. Shaff* (N. Y. State Mus. Bul. 150: 31. 1911. Jerome Park. New York City, *Bicknell* (Torr. Club Bul. 7: 52. 1880). Queens county, *Calverly* (Grout in *Torreya* 2: 52. 1902).

4 Hypericum densiflorum Pursh, Fl. Am. Sept. 376. 1814

Bushy or dense-flowered St John's-wort

Myriandra spathulata Spach, l.c.*H. prolificum* var. *densiflorum* Gray, Man. ed. 3, 84. 1867

In pine-barren depressions. A southern species known in this State from a single locality near Babylon, Long Island, *House*.

- 5 *Hypericum adpressum* Raf. Am. Mo. Mag. 1: 358. 1817 — Bart.
 Comp. Fl. Phila. 2: 15. 1818 Creeping St John's-wort
H. Bonaparteae Bart. Fl. N. Am. 3: 95. pl. 106. 1823

In low or wet situations. Frequent on Long Island. Not reported from Staten Island.

- 6 *Hypericum ellipticum* Hook. Fl. N. Am. 1: 110. 1830
 Elliptic-leaved or pale St John's-wort
H. sphaerocarpon Bart. Comp. Fl. Phila. 2: 14. 1818. Not Michx.

In swamps, bogs, marshes and along streams and shores of lakes and ponds. Common northward across the State. Less common in the western counties and rare south of the Hudson highlands. Not reported from Long Island or Staten Island.

- 7 *Hypericum perforatum* L. Sp. Pl. 785. 1753
 Common St John's-wort
 Common throughout nearly all sections of the State as a weed in fields, meadows and waste ground. Naturalized from Europe.

- 8 *Hypericum punctatum* Lam. Encycl. 4: 164. 1797
 Spotted or corymbed St John's-wort
H. maculatum Walt. Fl. Car. 189. 1788. Not Crantz.
H. corymbosum Muhl.; Willd. Sp. Pl. 3: 1457. 1803
H. micranthum Choisy. Prodr. Hyper. 44. t. 5. 1821
H. subpetiolatum Bicknell, in Small, Fl. SE. U. S. 790. 1903

In moist soil. Frequent or common throughout the State except in the pine-barrens of Long Island and the higher Adirondacks.

Section Brathys.

Brathys Mutis; L. f. Suppl. 43. 1781

- 9 *Hypericum boreale* (Britton) Bicknell, Torr. Club Bul. 22: 213. 1894
 Northern St John's-wort
H. canadense var. *minimum* Coulter, Bot. Gaz. 11: 110. 1886
H. canadense var. *boreale* Britton, Torr. Club. 18: 365. 1891

In wet soil. Common across the northern part of the State. Less frequent or local southward to Long Island, central and western New York.

10 *Hypericum mutilum* L. Sp. Pl. 787. 1753

Dwarf or small-flowered St John's-wort

H. Crux-Andree L., l.c.*H. quinquenervium* Walt. Fl. Car. 190. 1788*H. parviflorum* Muhl.; Willd. Sp. Pl. 3: 1457. 1803*Brathys quinquenervia* Spach, l.c. 367

In low or wet grounds. Common throughout most sections of the State.

11 *Hypericum gymnanthum* Engelm. & Gray, Bost. Jour. Nat. Hist. 5: 212. 1847

Clasping-leaved St John's-wort

H. mutilum var. *gymnanthum* Gray, Man. ed. 5, 86. 1867

In wet sandy barrens. Rare on Long Island (*Peck*).

12 *Hypericum majus* (A. Gray) Britton, Torr. Club Mem. 5: 225. 1894

Larger Canadian St John's-wort

H. canadense var. *majus* A. Gray, Man. ed. 5, 86. 1867

In moist soil. Infrequent or locally abundant across the northern part of the State and in central New York. Less common westward to Lake Erie and southward to Long Island where very rare. Reported from a single locality on Staten Island.

13 *Hypericum dissimulatum* Bicknell, Torr. Club Bul. 40: 610. 1913

In moist soil at New Drop, Staten Island and at Springfield and Rosendale, Long Island, *Bicknell*. Perhaps of wider distribution on southern Long Island.

14 *Hypericum canadense* L. Sp. Pl. 785. 1753

Canadian St John's-wort

In wet soil. Common across the State northward. Less frequent in the uplands of western and southern New York, but not uncommon on Long Island.

Section *Sarothra**Sarothra* L. Sp. Pl. 272. 175315 *Hypericum gentianoides* (L.) B.S.P. Prel. Cat. N. Y. 9. 1888

Orange grass, pineweed, false St John's-wort

Sarothra gentianoides L., l.c.*Hypericum Sarothra* Michx. Fl. Bor. Am. 2: 79. 1803*H. setosum* L. Sp. Pl. 787. 1753 (as to Plukenet syn.)*S. hypericoides* Nutt. Gen. 1: 204. 1818*H. nudicaule* Walt. Fl. Car. 190. 1788

In moist or rather dry sandy or rocky soil. Locally common across the State outside of and chiefly south of the Adirondacks. Increasingly common southward and on the coastal plain.

TRIADENUM Raf. Med. Repos. II 5: 352. 1808

Gardenia (Colden, 1756) Boehmer, in Ludw. Def. 292, 293. 1760 (cf. Farwell, Am. Mid. Nat. 8: 30. 1922)
Elodea Pursh, Fl. Am. Sept. 360. 1814. Not *Elodea* Michx. 1803
Elodes Spach, Ann. Sci. Nat. II. 5: 353. 1836. Probably not *Elodes* Adans. 1763
Martia Spreng. Anleit. 2: 788. 1818

Triadenum virginicum (L.) Raf. Fl. Tellur. 3: 79. 1837
 Marsh St John's-wort

Hypericum virginicum L. Sp. Pl. ed. 2, 1104. 1763
H. campanulatum Walt. Fl. Car. 191. 1788
Elodea campanulata Pursh, l.c. 379
Elodes virginica Nutt. Gen. 2: 17. 1818
T. purpureum Raf. Med. Repos. II. 5: 352. 1808
T. purpurascens Raf. Desv. Jour. Bot. 2: 171. 1809
Elodes virginica A. Gray, Man. ed. 5, 86. 1867
Elodea Fraseri Spach, Ann. Sci. Nat. II. 5: 168. 1836
Gardenia virginica Farwell, l.c.

In swamps, bogs and marshes or low grounds. Common throughout the State.

Family 81 **ELATINACEAE** Lindl. Nat. Syst. ed. 2, 88. 1836

Waterwort family

ELATINE L. Sp. Pl. 367. 1753

Potamogeton [L.] Kuntze, Rev. Gen. Pl. 58. 1891

1 **Elatine americana** (Pursh) Arn. Ebinb. Jour. Sci. 1: 430. 1830
 Waterwort, water purslane

Peplis americana Pursh, Fl. Am. Sept. 238. 1814
Potamogeton americana Kuntze, l.c.

Margins of ponds, lakes and slow streams. Infrequent, rare or local, but of general distribution throughout the State except the higher mountains.

2 **Elatine minima** (Nutt.) Fish. & Mey., Linnaea 10: 73. 1836
 Lesser waterwort or mud plantain

Crypta minima Nutt. Jour. Acad. Phila. 1: 117. pl. 6. f. 1. 1817
Elatine Clintoniana Peck, 22nd Rep't N. Y. State Mus. 52. 1869

On shores of lakes and ponds and slow streams. Infrequent or rare from Rensselaer and Oneida counties southward.

Bowman's pond, Rensselaer county, *Peck*; Averill Park, *Wibbe*; White lake and Forestport, Oneida county, *Haberer*; Albany, *Gray*; Lake Mahopac, Putnam county, *J. Carey*; Long Island, *Torrey*.

Family 82 **CISTACEAE** Lindl. Nat. Syst. ed. 2, 91. 1836.

Rockrose family

HELIANTHEMUM (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754

Crocanthemum Spach, Ann. Sci. Nat. II. 6: 370. 1836

Heteromeris Spach, in Hook. Comp. Bot. Mag. 2: 290. 1836

1 **Helianthemum Bicknellii** Fernald, *Rhodora* 21: 36. 1919

Hoary frostweed

H. corymbosum Pursh, Fl. Am. Sept. 364. 1814. Not Michx. 1803

H. majus B. S. P. Prel. Cat. N. Y. 6. 1888; Bicknell, Torr. Club Bul. 21: 259. 1894 (as to plant described, not *Lechea major* L.)

C. majus Britton, in Britton & Brown, Illus. Fl. ed. 2, 2: 540. 1913, as to descr. but excl. synonymy.

H. canadense var. *Walkedae* Evans, Bot. Gaz. 15: 211. 1890

In dry soil, usually in sandy or rocky places. Locally common across the State outside of the Adirondacks, from Lake Champlain to Lake Ontario, Lake Erie and southward.

2 **Helianthemum propinquum** Bicknell; Britton, Man. ed. 2, 1069.

1905

Southern hoary frostweed

C. propinquum Bicknell, Torr. Club Bul. 40: 615. 1913

In sandy soil from western Long Island southward. Not common. Blake (*Rhodora* 20: 50. 1918) does not regard this as distinct from the preceding species.

3 **Helianthemum canadense** (L.) Michx. Fl. Bor. Am. 1: 308.

1803

Long-branched frostweed, rockrose, scrofula plant

Lechea major L. Sp. Pl. 90. 1753*

Cistus canadensis L., l.c. 526

H. ramuliflorum Michx., l.c. 307

Heteromeris canadensis Spach, Ann. Sci. Nat. II. 6: 370. 1836

Heteromeris Michauxii Spach, Hook. Comp. Bot. Mag. 2: 291. 1836

Heteromeris cymosa Spach, l.c.

Halimium canadense Grasser, Pflanzenreich 14: 51. 1903

In dry rocky or sandy soil. Common on Long Island and Staten Island. Less common northward to Albany and Saratoga counties, westward to Monroe and Erie counties.

* *Lechea major* L., is, according to the specimen in the Linnaean herbarium, this species, but the name was taken up by Michaux for *Lechea villosa* Ell. Bicknell has taken up the name for the first species here listed, and the name was so used in the Illustrated Flora. To transfer now the name back to *H. canadense* only adds to the confusion, and the name, which has for so long been a source of confusion in this genus, may well be disregarded entirely, thus leaving our plant under the name *H. canadense*, by which it has always been known.

- 4 **Helianthemum dumosum** (Bicknell) Fernald, *Rhodora* 19: 60. 1917
 Spreading frostweed or rockrose
Crocianthemum dumosum Bicknell, Torr. Club Bul. 40: 613. 1913

In dry sandy soil. Hempstead Plains, Long Island, *Bicknell, House*.

HUDSONIA L. Mant. 1: 74. 1767

- 1 **Hudsonia ericoides** L., l.c. Heath-like hudsonia
H. Nuttallii Sweet, Cist. Pl. 19; G. Don, Gen. Syst. 1: 315. 1831

In dry sandy soil, especially in the pine-barrens, on Long Island and southward. Locally frequent.

- 2 **Hudsonia tomentosa** Nutt. Gen. 2: 5. 1818
 Woolly hudsonia, false heather
H. maritima Torr.; Steud. Nom. ed. 2, 1: 778. 1841

In sandy soil along the seashore and in sandy pine-barrens on Long Island and Staten Island. Less frequent or local northward on the shores of Lake Champlain, Lake Pleasant and westward.

The northern form, on the shores of Lake Pleasant, was described by Peck (45th Rep't N. Y. State Mus. 26. 1893) as var. **intermedia**.

LECHEA Kalm.; L. Sp. Pl. 90. 1753

- 1 **Lechea minor** L., l.c. Thyme-leaved pinweed
L. thymifolia Michx. Fl. Bor. Am. 1: 77. 1803
L. novae-caesareae Austin; Gray, Man. ed. 5, 81. 1867

In dry, open places, usually in sandy or rocky soil or on dry or stony hillsides. Frequent or common across the State south of the Adirondack region.

- 2 **Lechea racemulosa** Lam. Tabl. Encycl. 2: 432. pl. 281. f. 3. 1791
 Oblong-fruited pinweed
L. minor var. *gracilis* T. & G. Fl. N. Am. 1: 153. 1840; Torr. Fl. N. Y. 1: 79. 1843

In dry sandy or rocky soil. Frequent on Long Island and Staten Island. Less common northward into Westchester county and at Highland Mills, Orange county, *Peck*.

- 3 **Lechea mucronata** Raf. in Desv. Jour. Bot. 4: 269. 1814
 Large or hairy pinweed
L. major Michx. Fl. Bor. Am. 1: 76. 1803. Not L.
L. villosa Ell. Bot. S. C. & Ga. 1: 184. 1817
L. Drummondii Spach, in Hook. Comp. Bot. Mag. 2: 284. 1836

In dry or sandy soil. Locally common across the State south of the Adirondack region. Increasingly common southward especially in the sandy sections of the Ontario lowlands, Oneida county, Albany county and on Long Island and Staten Island.

- 4 *Lechea maritima* Leggett, in Britton, Prel. Cat. N. J. 13. 1881
Beach pinweed

L. thymifolia Pursh, Fl. Am. Sept. 91. 1814. Not Michx.

L. minor var. *maritima* A. Gray, Man. ed. 6, 77. 1890

In sand or sandy soil along the seacoast of Long Island and Staten Island. Infrequent.

- 5 *Lechea tenuifolia* Michx. Fl. Bor. Am. 1: 77. 1803
Narrow-leaved pinweed

Lechea minor, vars. β & γ , Torr. & Gray, Fl. N. Am. 1: 154. 1838

L. thesioides Spach, Comp. Bot. Mag. 1: 284. 1835

In dry or rocky soil, usually in fields or open woods. Locally frequent across the State south of the Adirondacks and increasingly common southward.

- 6 *Lechea Leggettii* Britton & Hollick, Prel. Cat. N. Y. 6. 1888
Leggett's pinweed

L. minor Lam. Tabl. Eycl. t. 52. f. 1. 1791. Not L.

L. Leggettii var. *pulchella* Britton & Hollick, l.c.

? *L. minor* var. *dumosa* Torrey, Fl. N. Y. 1: 79. 1843

In dry open places and sandy soil. Long Island and Staten Island. Rare and local northward into Westchester county.

- 7 *Lechea intermedia* Leggett; Britton, Torr. Club. Bul. 21: 252.
1894 Large-podded pinweed

L. Leggettii var. *intermedia* Britton & Hollick, Prel. Cat. N. Y. 6. 1888

L. minor Hook. Fl. Bor. Am. 1: 72. 1834. Not L.

In dry open woods and fields, especially in hilly or mountainous sections. Common across the State northward, outside of the higher Adirondacks, southward to the Hudson highlands.

- 8 *Lechea stricta* Leggett; Britton, Torr. Club Bul. 21: 251. 1894
Bushy or prairie pinweed

Prairies and dry open situations. Western New York, according to Britton. Reported east to Bellville, Canada, Macoun, (Robinson, Syn. Fl. 1¹: 193. 1895)

The following names proposed by Rafinesque, are largely impossible of determination, except by guess: viz: *brevifolia*, *cinerea*, *corymbosa*, *floridana*, *furfuracea*, *glomerata*, *heterophylla*, *laxiflora*, *pauciflora*, *pulchella*, *recurvata*, *revoluta*, *secundiflora*, *stellata*, *succulosa*, *ternifolia*, *uniflora*, *verna* and *virgata*.

Family 83 **VIOLACEAE** DC. Fl. Franc. 4: 801. 1805

Violet family

VIOLA (Tourn.) L. Sp. Pl. 933. 1753*

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 1 ***Viola pedata*** L. Sp. Pl. 933. 1753 Bird's-foot violet

V. pedata β. *velutina* Schw. Mm. Jour. Sci. 5: 51. 1822

V. multifida Mill. Gard. Dict. ed. 8, No. 5. 1768

V. flabellifolia Lodd. Bot. Cab. 8: pl. 777. 1823

V. pedata var. *bicolor* Pursh, Raf. in D.C. Prodr. 1: 291. 1824

V. pedata var. *atropurpurea* DC., l.c.

In dry fields and open woods, usually in sandy soil. Infrequent or rare on Long Island, Staten Island and northward to Westchester county.

Rockaway, *Rusby* (Torr. Club Bul. 6: 219. 1878). Near Glen Cove, *Coles* (Torr. Club Bul. 2: 23. 1871). Inwood, *Bicknell*, (Torr. Club Bul. 7: 114. 1880).

 Var. ***lineariloba*** DC. Prodr. 1: 291. 1824

V. digitata Pursh, Fl. Am. Sept. 1: 171. 1814

V. inornata Greene, Leaflets 1: 3. 1903

* The acaulescent violets of the eastern United States, in particular, have received from botanists during the past three decades an unusual amount of attention. In spite of this, it can not be said that the status of all of them is satisfactorily settled. Much confusion still exists regarding the proper application of some of the older specific names like *obliqua*, *papilionacea*, *sororia*, *cucullata*, etc.

It has recently been suggested that Hill's *V. obliqua* represents what is now called *V. affinis* LeConte, a revival of the former use of this name; and that *V. cucullata* Aiton, is the same thing. *V. papilionacea* Pursh, is then put forward as the correct name for what has been called *V. cucullata* in all of our recent manuals, almost without question or exception.

I can not see the force of the arguments for these proposed changes, which seem to be in line with the unnecessary changes in the application of such names as *Quercus rubra*, *Populus balsamifera*, *Prunus virginiana*, etc., and it seems that the present use of these specific names in *Viola* as found in the seventh edition of Gray's Manual, and in the second edition of the Illustrated Flora is substantially correct, and any doubts are more than counterbalanced by the confusion resulting from the proposed changes, a confusion the more undesirable in a group where so many hybrid forms are to be recognized.

That such changes may obtain recognition leads me to suggest binomial names for the numerous hybrid species of violets which occur in our flora.

Petals all of the same color, light blue, while in the typical species the two upper petals are dark purple. The variety is the commoner form of the species in this State in dry or sandy soil in meadows or open woods northward to Albany and Saratoga county, westward to Lake Erie. Reported many years ago from Watson, Lewis county by *Hough*.

Forma **alba** (Thurber) House, N. Y. State Mus. Bul. 243-244: 46. 1923

V. pedata var. *alba* Thurber, Torr. Club Bul. 1: 20. 1870

V. pedata forma *alba* Britton, Torr. Club Bul. 17: 23. 1890

Suffolk county, *Coles* (Torr. Club Bul. 2: 23. 1871). Flushing, *Allen* (Thurber, l.c.), North of Rome, *Paine*, *I. H. Hall* (Torr. Club Bul. 1: 22. 1870).

Forma **rosea** (Sanders) House, l.c. 56

V. pedata forma *rosea* Sanders Rhodora 13: 172. 1911

This form with rosy colored petals is rare. The only known locality in New York State is the edge of the Hempstead plains, *House*.

2 *Viola Palmata* L., l.c. Palmate or early blue violet

On wooded hills in rather dry soil. Locally common across the State from Washington county to Lake Ontario, Lake Erie and southward where it is increasingly abundant especially in rich soil of rocky woodlands.

× *Viola modica* (*V. palmata* × *papilionacea* Brainerd; Dowell, Torr. Club Bul. 37: 177. 1910—Brainerd, Torr. Club Bul. 39: 85. *pl. 6. f. A, Aa*. 1912). Originals raised by Doctor Brainerd from a plant collected in New Jersey. Brainerd cites New York collections. Dowell cites several from Staten Island, one of which is a hybrid between *V. palmata* and *V. triloba*. This hybrid is not infrequent in the Hudson valley.

× *Viola mistura*. (*V. palmata* × *sagittata* Brainerd, Rhodora 15: 115. 1913). Type collected at Garrisons, N. Y., by *E. S. Benton* (Gray herbarium) Staten Island, *Dowell* (l.c. 178).

× *Viola Peckiana* (*V. palmata* × *sororia* House, l.c. 53)

Early leaves broadly ovate to reniform, entire or with some of the leaves slightly lobed, somewhat pubescent above, glabrous beneath and on the petioles; later leaves softly and rather densely pubescent on the petioles and lower leaf surfaces, the blades less pubescent above, and variously 3-7-lobed or nearly entire. Growing with *V. palmata* and *V. sororia*. Saugerties, Ulster county, *C. H. Peck*, May 10, 1904 (TYPE). Van Cortlandt Park, New York City, *House*.

× *Viola Angellae* Pollard, Torrey 2: 24. 1902. (*V. palmata* × *triloba* Brainerd, Torr. Club Bul. 39: 88. 1912). Type collected near Orange, New Jersey. Infrequent or rare in New York State.

3 *Viola Baxteri* House, Bul. N. Y. State Mus. 233-234: 11. 1921 Baxter's violet

On shaded hillsides, open woods and moist thickets, Ontario county, *Baxter*, *House*. Probably of wider distribution in western New York.

This was first reported (Bul. N. Y. State Mus. 197: 58. 1918), as *V. perpensa* Greene, but subsequent investigations have shown that *V. perpensa* was based upon either aberrant forms of *V. pedatifida* or upon hybrids of *V. pedatifida* with some other species. *V. Baxteri* may also be included in the conception of what is described as *V. Bernardi* Greene, by Pollard in Britton's Manual, 1901, but *V. Bernardi* is quite different as shown by the type specimens seen in Doctor Greene's herbarium before it was removed from Washington.

× *Viola excerpta*. (*V. Baxteri* × *fimbriatula*). Common at the type locality of *V. Baxteri*, growing with both of the parent species. In general appearance much like *V. Angellae* Pollard.

4 *Viola triloba* Schw. Am. Jour. Sci. 5: 57. 1822

Three-lobed violet

V. asarifolia Pursh, Fl. Am. Sept. 732. 1814 (in part perhaps)

V. congener LeConte, Ann. Lyc. N. Y. 2: 140. 1826

V. palmata sororia Pollard, Bot. Gaz. 26: 332. 1898 (in part, not *V. sororia* Willd.)

V. palmata asarifolia House, Torrey 2: 68. 1902

V. palmata dilatata Pollard, in Britton, Man. 635. 1905 (in part at least)

V. vespertilionis Greene, Leaflets 1: 217. 1906

V. ornithodes Greene, l.c. 218

In dry woodlands. Infrequent across the State south of the Adirondacks, and apparently south of the Ontario lowlands, westward to Lake Erie.

Tottenville, and Ocean Terrace, Staten Island, *Dowell* (Torr. Club Bul. 37: 167. 1910). Bald mountain, Rensselaer county, *Peck*, *House*. Mendon, Monroe county, *House*.

5 *Viola papilionacea* Pursh, Fl. Am. Sept. 173. 1814

Meadow or hooded blue violet

V. obliqua Schw. in Am. Jour. Sci. 5: 60. 1822 — Britton & Brown, Illus. Fl. 2: 447. 1897 in part. Greene, Pittonia 3: 142. 1896. Not Ait.

V. cucullata var. *papilionacea* Eaton, Man. 389. 1833

V. laeta caerulea Greene, Proc. Biol. Soc. Washington 14: 70. 1901

In moist soil in fields, woods and groves, often in moist low woods or shaded alluvial soil which is occasionally inundated. Frequent across the State outside of the Adirondacks and higher Catskills, and increasingly abundant southward.

× *Viola conjugens* Greene, Pittonia 4: 3. 1899. (*V. papilionacea* × *sagittata* Brainerd, Rhodora 8: 54. 1906 — House, Torr. Club Bul. 32: 256. 1905). Elsewhere Brainerd has mentioned *V. conjugens* as a possible hybrid between *V. fimbriatula* and *V. sagittata*, but the types seen in Doctor Greene's herbarium indicate the relationship here maintained. Type of Brainerd's hybrid name, is from Philadelphia, Pa. The hybrid is also found on Staten Island, *Dowell* (l.c. 178), and on Long Island.

× *Viola napae*. (*V. papilionacea* × *sororia* Brainerd; *Dowell* (Torr. Club Bul. 37: 178. 1910). Occasional on Staten Island and in the Hudson valley, doubtless elsewhere. It may also be the basis for *V. induta* Greene.

× *Viola variabilis* Greene, Pittonia 5: 91. 1902. (*V. palmata variabilis* Stone, Proc. Phila. Acad. 667. 1903 — *V. papilionacea* × *triloba* Brainerd, Torr. Club. Bul. 39: 90. 1912). Springville, Staten Island, *Davis* (Brainerd,

l.c.). Bald mountain, Rensselaer county, *House*. Type from Washington, D. C. Doctor Brainerd states that the several original sheets of Greene's *V. variabilis*, are not all the true hybrid, so that it is difficult to designate a definite type specimen for Greene's name.

6 *Viola latiuscula* Greene, Pittonia 5: 93. 1902

On hillsides and in open dry woodlands. Infrequent or local throughout the eastern and northern sections of the State. Perhaps of wider distribution.

Minerva, Essex county, *Peck* (N. Y. State Mus. Bul. 94: 35. 1905). Newcomb, *House*. Victor, Ontario county, *Matthews* (Proc. Rochester Acad. 5: 90. 1907), Otis summit, Greene county, *House* 6037. Cedar Hill, Albany county, *Peck*. Hoosick Junction, Rensselaer county, *Brainerd*. Dutchess county, *Eggleston*.

x *Viola Slavinii*. (*V. latiuscula* x *triloba* Brainerd, Torr. Club Bul. 39: 94. 1912.) Type from Salamanca, collected by B. H. *Slavin*

7 *Viola sororia* Willd. Enum. Hort. Berol. 263. pl. 73. 1806

Woolly blue violet, sister violet

V. asarifolia Pursh, Fl. Am. Sept. 2: 734. 1814 (in large part)

V. cuspidata Greene, Pittonia 3: 314. 1898

V. nodosa Greene, l.c. 4: 296. 1901

V. Dicksonii Greene, l.c. 4: 65. 1899

In dry or moist open woodlands, shady places and less frequently in open fields, pastures, etc. Common across the State from Lake Champlain to the St Lawrence river, outside of the higher Adirondacks, westward and southward, but largely absent from the coastal plain.

Forma *Beckwithii* House, N. Y. State Mus. Bul. 243-244: 40 1923, with white petals, occurs near Rochester *Florence Beckwith*, and on Staten Island, *Dowell* (l.c. 167).

x *Viola populifolia* Greene, Pittonia 3: 337. 1898 (*V. sororia* x *triloba* Brainerd, Torr. Club Bul. 39: 92. 1912). The type of Greene's name is from Ontario. Brainerd's type is from Vermont. Wemple, Albany county, *House*.

8 *Viola hirsutula* Brainerd, Rhodora 9: 98. 1907

Southern wood violet

V. villosa Nutt. Gen. 1: 148. 1818—Britton & Brown, Illus. Fl. 2: 447. f. 2488. 1897. Not Walt. 1788

V. sororia G. Don, Gen. Syst. 1: 324. 1831. Eaton, Man. 390. 1833—LeConte, Ann. Lyc. N. Y. 2: 142. 1828. Not Willd. 1809

V. palmata var. *villosa* Robinson, Syn. Fl. 1: 196. 1895

In rich rather dry soil of open woods and thickets. Rare on Long Island (Babylon, *House*) and Staten Island, and from Tioga county, *Fenno*, southward. A specimen from North Greenbush, Rensselaer county, collected by *Peck*, is in the state herbarium.

x *V. ravida*. (*V. hirsutula* x *palmata* Brainerd, Torr. Club Bul. 39: 96. 1912). Type from Plainfield, N. J.

x *Viola cordifolia* (Nutt.) Schw. Am. Jour. Sci. 5: 62. 1822. *V. hirsutula*

x *papilionacea* Brainerd, Rhodora 9: 98. 1907. *V. villosa* var. *cordifolia* Nutt. Gen. 1: 148. 1818 *V. villosa* var. *cordata* Torrey, Fl. U. S. 1: 252. 1824. *V. papilionacea* x *villosa* House, Rhodora 8: 121. 1906).

Type of Brainerd's hybrid from near Philadelphia, of House's, from Washington, D. C. Reported by Dowell (l.c. 176) from Staten Island. Babylon, Long Island, House.

x *Viola perpera*. (*V. hirsutula* x *sororia* Dowell, Torr. Club Bul. 37: 176. pl. 16. 1910). Type from Staten Island, Dowell

x *Viola dissita*. (*V. hirsutula* x *triloba* Brainerd, Torr. Club Bul. 39: 95. 1912. *V. palmata* x *villosa* Brainerd, Rhodora 8: 56. 1906, House, Rhodora 8: 121. 1906). Type from Milltown, New Jersey. Babylon, Long Island, House.

9 *Viola septentrionalis* Greene, Pittonia 3: 334. 1898

Northern blue violet

V. Macounii Greene, l.c. 335

In moist open woodlands and openings. Frequent or common across the State northward. Less common southward to Dutchess Ulster and Delaware counties, and westward to Genesee county.

x *Viola montivaga*. (*V. septentrionalis* x *sororia* Brainerd, Rhodora 6: 221. 1904. Type from Vermont. Infrequent chiefly south of the Adirondacks and in the Hudson valley, where the ranges of the two parent species overlap.

10 *Viola affinis* LeConte, Ann. Lyc. N. Y. 2: 138. 1828

LeConte's violet

? *V. obliqua* Hill, Hort. Kew. 288. pl. 12. 1769.*

? *V. cordata* Walt. Fl. Car. 219. 1788

V. crenulata Greene, Pittonia 4: 295. 1901

V. venustula Greene, Pittonia 3: 335. 1898

In moist meadows, low woods, shady borders of streams and in low or swampy woods. Common across the State southward. Less frequent northward to Lake Champlain, the Canadian border, the St Lawrence basin and westward to Lake Erie. In the Adirondacks up to 2000 feet altitude.

x *Viola Davisii*. (*V. affinis* x *Brittoniana* Dowell, Torr. Club Bul. 37: 160. pl. 11. 1910). Type from Staten Island. Also found on the Hempstead plains, Long Island, House.

x *Viola Hollickii*. (*V. affinis* x *fimbriatula* Dowell, l.c. 170. pl. 12. Type from Staten Island, Dowell. Also found in Bronx county, House.

x *Viola consobrina*. (*V. affinis* x *hirsutula* Dowell, l.c. 171. *V. affinis* x *villosa* Brainerd, Rhodora 8: 56. 1906. Type from near Philadelphia, Stone Most of what Stone includes under *V. villosa cordifolia* seems to belong here according to Brainerd. Staten Island, Dowell. Babylon, Long Island, House.

x *Viola subaffinis*. (*V. affinis* x *nephrophylla* Brainerd, Rhodora 8: 50. 1906) Type from the east shore of Providence island, Lake Champlain.

x *Viola discors*. (*V. affinis* x *palmata* Dowell, Torr. Club Bul. 37: 171.

* *V. obliqua* Hill. The status of this name may never be satisfactorily settled. Torrey and Gray thought likely that it might be *V. rotundifolia* Michx. because of the expression "petala stram'nea," used by Hill. Pursh and Eaton assigned the name to the white-flowered. *blanda* group, and it is not unlikely that the original of Hill's *V. obliqua* is *V. blanda* or *V. incognita*. Schweinitz and more lately Doctor Greene regarded the name as what is now usually called *V. papilionacea*, while other authorities have recently regarded it as the same as LeConte's *V. affinis*.

pl. 13. 1910). Type from Staten Island, *Dowell*. Near Gun Hill road, Bronx county, *House*.

× *Viola columbiana*. (*V. affinis* × *papilionacea* *House*, *Rhodora* 8: 119. 1906—*Dowell*, l.c. 171.) Type from Woodbridge, D.C. Staten Island, *Dowell*. This may be *V. filicetorum* *Greene*.

× *Viola consocia*. (*V. affinis* × *cucullata* *Brainerd*, *Rhodora* 8: 49. 1906). Type from Vermont. Staten Island, *Dowell*. Selkirk, Albany county, *House*.

× *Viola dissena*. (*V. affinis* × *sagittata* *Brainerd*, *Rhodora* 8: 55. 1906—*Dowell*, l.c. 171). Type from Maryland. Reported by *Dowell* from Staten Island.

× *Viola champlainensis*. (*V. affinis* × *septentrionalis* *Brainerd*, *Rhodora* 6: 219. 1904). Type from Knight's island, Lake Champlain. Occasional across northern New York.

× *Viola consona*. (*V. affinis* × *sororia* *Brainerd*, l.c. 221—*Dowell*, l.c. 171). Type from an island in Lake Champlain, *Brainerd*. Staten Island, *Dowell*.

11 *Viola nephrophylla* Greene, Pittonia 3: 144. 1896

Northern bog violet

In mossy bogs and borders of lakes and streams. Frequent across the northern part of the State, southward to Washington, Rensselaer Otsego, Herkimer, Tompkins, Wayne and Genesee counties. Also in the western Catskills. The leaves often simulate those of *V. emarginata*, especially in the marly bogs of central and western New York, which form may not belong here, but which may be *V. vagula* *Greene*, a name usually regarded as synonymous with *V. nephrophylla*.

12 *Viola cucullata* Ait. Hort. Kew. 3: 228. 1789

Marsh blue violet

V. palmata var. *cucullata* A. Gray, Bot. Gaz. 11: 254. 1886

V. leptosepala *Greene*, Pittonia 5: 98. 1902

V. oconensis *House*, Torreya 7: 137. fig. 4. 1907

V. prionosepala *Greene*, l.c. 99

V. cucullata forma *prionosepala* *Brainerd*, *Rhodora* 15: 112. 1913

In wet places, usually in open marshes, swamps and borders of streams and ponds. Common throughout the State. A form with white petals, forma *albiflora* *Britton*, is not rare. Forma **Thurstonii** (*Twining*) comb. nov. (var. *Thurstonii* *Twining*, Fl. NE. Pa. 52. 1917), has petals irregularly mottled with blue and white.

The common northern form has the leaves more or less minutely hirtellous; margins of the sepals often interruptedly serrulate-ciliolate, and is the form described by *Greene* as *V. prionosepala*. It is usually indistinctly separated from the smoother form of deeper and cooler swamps, while southward from Lake Champlain and the Ontario lowlands, there is frequently found a variety with broader, thicker and less cucullate leaf-blades, sepals minutely ciliate on the margins, scapes and petioles often with a few scattered hairs, which is the var. *macrotyis* (*Greene*) *Stone*, Proc. Acad. Nat. Sci. Phila. 673. 1903 (*V. macrotyis* *Greene*, l.c. 97).

× *Viola Porteriana* Pollard, Torr. Club Bul. 24: 404. *pl.* 314. 1897. (*V. cucullata* × *fimbriatula* Brainerd, Rhodora 6: 217. 1904), perhaps also *V. amorphylla* Pollard, Proc. Biol. Soc. Wash. 13: 129. 1900, cf. Brainerd, Torr. Club Bul. 38: 3. 1911). Type from Pennsylvania. Occasional on Long Island, Staten Island and northward to central and western New York.

× *Viola inessa*. (*V. cucullata* × *nephrophylla* Brainerd, Rhodora 8: 50. 1906. Type from Vermont. Not reported from New York.

× *Viola Ryonii*. (*V. cucullata* × *palmata* Brainerd, Rhodora 15: 115. 1913, not Brainerd, l.c. 1906. Type from Connecticut.

× *Viola Bissellii*. (*V. cucullata* × *papilionacea* Brainerd, Rhodora 8: 56. 1906 — Dowell, Torr. Club Bul. 37: 174. 1910). Type from Connecticut. Staten Island, *Dowell*, Between New York and Yonkers, *Eggleson & Brainerd*. North Greenbush, *Peck*.

× *Viola lavandulacea* Bicknell, Torrey 4: 130. 1904. (*V. cucullata* × *primulifolia* Brainerd, Rhodora 11: 115. 1909). Rosedale and Woodmere, Long Island, *Bicknell*. Previously Brainerd (Rhodora 8: 52. 1906) has suggested that this is a hybrid between *V. cucullata* and *V. emarginata*, which seems more likely than with *V. primulifolia* as one of the parent species.

× *Viola festata*. (*V. cucullata* × *sagittata* Brainerd, Rhodora 8: 52. 1906. *V. emarginata* Stone, l.c., 685. *V. oconensis* × *sagittata* House, Torrey 7: 136. 1907). Brainerd's hybrid name for this is based upon Stone's specimens. It also occurs rarely on Long Island.

× *Viola melissaefolia* Greene, Pittonia 5: 193. 1902. (*V. cucullata* × *septentrionalis* Brainerd, Rhodora 6: 220. 1904). Type of Greene's name from Prince Edward Island. Brainerd's name is based upon plants from the same source. A not uncommon hybrid in northern New York.

× *Viola conturbata*. (*V. cucullata* × *sororia* Brainerd, Rhodora 4: 222. 1904). Type from Massachusetts. Rare in New York.

× *Viola Greenmani*. (*V. cucullata* × *triloba* Brainerd, Rhodora 15: 115. 1913 — Dowell, Torr. Club Bul. 37: 174. 1910. *V. cucullata* × *palmata* var. *dilatata* Auth. Not Ell., Brainerd, Rhodora 8: 56. 1906. Type from near Lexington, Mass., *Greenman*. Staten Island, *Dowell*.

12a *Viola domestica* Bicknell; Britton & Brown, Illus. Fl. 3: 519. *f.* 2487a. 1898

V. communis Pollard, Bot. Gaz. 26: 336. 1898. Not Wittrock

V. papilionacea Greene, Pittonia 5: 14. 1900

V. familiaris Greene, Cybele Columbiana 1: 14. 1914

It is difficult to properly place this distinctive looking violet which is frequent, especially in yards and near dwellings, in many portions of the eastern States. It is by some authorities now placed in *V. papilionacea*, with the indigenous form of which it has little in common beyond some similarity in the cleistogenes and their resultant capsules, and like it also glabrous. The specimens which I have seen strongly suggest a possible hybrid origin between *V. cucullata* and *V. papilionacea* (*V. Bissellii* House).

13 *Viola novae-angliae* House, Rhodora 6: 226. 1904

Type collected at Fort Kent, Maine, *Fernald*. It has since been reported from several localities westward along the Great Lakes to Wisconsin, and may be looked for in northern New York.

14 *Viola fimbriatula* J. E. Smith, in Rees Cycl. 23. 1817

Ovate-leaved violet

V. primulifolia Pursh, Fl. Am. Sept. 172. 1814. Not L.

V. ovata Nutt. Gen. 1: 147. 1818

V. alleghaniensis R. & S. Syst. 5: 560. 1819

V. sagittata Paine, Cat. Pl. Oneida Co. 63. 1865. Not Ait.

In dry or sandy fields and on hillsides, often in rocky soil. Common across the State outside of the Adirondacks and increasingly

common southward. Largely absent from strictly calcareous soils.

× *Viola redacta*. (*V. fimbriatula* × *hirsutula* Dowell, Torr. Club Bul. 37: 175. pl. 15. 1910. *V. fimbriatula* × *villosa* House, Rhodora 8: 121. 1906). Type from the District of Columbia. Staten Island, *Dowell*. Babylon, Long Island, *House*.

× *Viola convicta*. (*V. fimbriatula* × *palmata* Brainerd, Rhodora 15: 114. 1913. Not Robinson, 1906). Frequent in the Hudson valley and rarely westward across the State where the two parent species occur together.

× *Viola aberrans* Greene; Stone, Proc. Phila. Acad. Nat. Sci. 683. pl. 37. f. 4-6. 1903, as syn. (*V. papilionacea aberrans* Stone, l.c. *V. fimbriatula* × *papilionacea* Brainerd, Rhodora 8: 54. 1906).

The type specimens of Greene's are undoubtedly various hybrid stages between *V. fimbriatula* and *V. papilionacea*. The type of Stone's description (*Stone 5147*), was referred by Brainerd to *V. fimbriatula* × *sororia* (Rhodora 6: 218. 1904), but later Brainerd referred Greene's *V. aberrans* to this hybrid. Frequent on Staten Island and on Long Island.

× *Viola abundans*. (*V. fimbriatula* × *sagittata* Brainerd, Rhodora 8: 54. 1906). An extremely variable hybrid, as pointed out by Brainerd, who designates four extremes as A B C and D. Occasional on Staten Island, *Leggett*, *Britton*, *Hollick* (*Dowell Torr. Club Bul. 37: 175. 1910*), and on Long Island.

× *Viola parca*. (*V. fimbriatula* × *septentrionalis* Brainerd, Rhodora 6: 215. 1908). Type from Vermont. Fulton county, *House*.

× *Viola Fernaldii*. (*Viola fimbriatula* × *sororia* Brainerd, Rhodora 6: 218. 1904—*Dowell*, l.c. 175). A rather common and conspicuous hybrid violet. Occurs in New York State northward to Albany and Oneida counties, and doubtless of general occurrence wherever the two parent species grow.

× *Viola Robinsoniana*. (*V. fimbriatula* × *triloba* Brainerd, Rhodora 15: 114. 1913, first named as a hybrid with *V. palmata* Rhodora 8: 53. pl. 70. 1906). Type from Massachusetts. Also on Staten Island, *Dowell* (l.c. 175).

15 *Viola sagittata* Ait. Hort. Kew. 3: 287. 1789

Arrow-leaved violet

V. dentata Pursh, Fl. Am. Sept. 172. 1814

Moist banks and turfey meadows. Frequent on Long Island and Staten Island. Less common northward in the Hudson valley to Greene and Rensselaer counties.

A pubescent form, which simulates somewhat *V. sagittata* in leaf form is not uncommon in the Hudson valley but apparently merges into typical *V. fimbriatula*, to which all pubescent forms perviously reported as *V. sagittata*, are here referred.

× *Viola caesariensis*. (*V. sagittata* × *triloba* Brainerd, Rhodora 15: 115. 1913, first described, Rhodora 8: 54. 1906, as *V. palmata* × *sagittata* Brainerd. Type from New Jersey.

16 *Viola emarginata* (Nutt.) LeConte, Ann. Lyc. N. Y. 2: 142. 1828

Triangle-leaved violet

V. sagittata var. *emarginata* Nutt. Gen. 1: 147. 1818

In dry woods and on hillsides. Infrequent or rare on Long Island and Staten Island. The variety *acutiloba* Brainerd, rare on Staten Island.

× *Viola erratica*. (*V. emarginata* × *fimbriatula* Brainerd, Rhodora 8: 57. 1906—*Dowell*, Torr. Club Bul. 37: 174. 1910). Type from near Wash-

ington, D. C. Staten Island, *Dowell*. Brainerd describes 4 extremes or forms which this hybrid assumes.

× *Viola dimissa*. (*V. emarginata* × *hirsutula* Malte & Macoun, Ottawa Nat. 28: 164. 1915. (*V. emarginata* × *villosa* House, Rhodora 8: 120. 1906). Type from District of Columbia.

× *Viola Greenei*. (*V. emarginata* × *papilionacea* House, Rhodora 8: 120. 1906). Type from District of Columbia.

× *Viola cestricea*. (*V. emarginata* × *sagittata* Brainerd, Rhodora 8: 58. 1906—*Dowell*, l.c. 174)). Type from Chester county, Pa. Staten Island, *Dowell*. Babylon, Long Island, *House*.

17 *Viola pectinata* Bicknell, Torrey 4: 129. 1904

Pectinate-leaved violet

In low meadows bordering salt marshes. Rare on Long Island and Staten Island.

18 *Viola Brittoniana* Pollard, Bot. Gaz. 26: 332. 1898

Britton's coast violet

V. atlantica Britton, Torr. Club Bul. 24: 92. 1897. Not Pomel. 1874

In low turfey meadows or moist sandy soil. Locally common on Long Island and Staten Island and the Long Island Sound shore of Westchester and Bronx counties.

× *Viola notabilis* Bicknell, Torrey 4: 131. 1904. (*V. Brittoniana* × *cucullata* House, Torr. Club Bul. 32: 255. pl. 17. 1905—erroneously designated by Brainerd, Rhodora 8: 52. 1906, as *V. cucullata* × *septemloba*). Type from Long Island. Several localities on Staten Island, *Dowell* (l.c. 172).

× *Viola Holmiana*. (*V. Brittoniana* × *emarginata* House, Rhodora 8: 120. pl. 71. 1906—Brainerd, Rhodora 8: 53. 1906, as *V. emarginata* × *septemloba*. "Cut-leaved forms of *V. emarginata*," Greene, Pittonia 3: pl. 7, 8, by Holm). Type from near Washington, D. C. Not reported from New York.

× *Viola Mulfordae* Pollard, Proc. Biol. Soc. Wash. 15: 203. (*V. Brittoniana* × *fimbriatula* *Dowell*, Torr. Club Bul. 37: 172. 1910—Brainerd, Rhodora 8: 51. 1906, as *V. fimbriatula* × *septemloba*). Type from Long Island, where frequent. Staten Island, *Dowell*.

× *Viola Eamesii*. (*V. Brittoniana* × *palmata* Malte & Macoun, Ottawa Nat. 28: 163. 1915—*V. palmata* × *septemloba* Brainerd, Rhodora 8: 55. 1906). Type from Connecticut.

× *Viola insolita*. (*V. Brittoniana* × *papilionacea* *Dowell*, Torr. Club Bul. 37: 173. pl. 14. 1910). Type from Staten Island, *Dowell*.

× *Viola marylandica*. (*V. Brittoniana* × *sagittata* House, Rhodora 8: 120. 1906—*Dowell*, l.c. 173—Brainerd, Rhodora 8: 51 pl. 66 f. a, b. 1906, as *V. sagittata* × *septemloba*). Type from Hyattsville, Md. Staten Island, *Britton*, *Davis*, *Dowell*.

19 *Viola Selkirkii* Pursh; Goldie, Edinb. Phil. Jour. 6: 324. 1822

Selkirk's or great-spurred violet

Shaded ravines and cool mountain forests. Locally common across the State northward. Less frequent or rare southward to Dutchess, Ulster and Greene counties, westward to Broome, Tompkins and Chautauqua counties.

20 *Viola renifolia* A Gray, Proc. Am. Acad. 8: 288. 1870

Kidney-leaved violet

In arbor-vitae swamps and cold moist woods. Common across

the State northward. Less frequent southward to the Catskill mountains and westward to Yates and Genesee counties.

Var. **Brainerdii** (Greene) Fernald, *Rhodora* 14: 88. 1912

V. Brainerdii Greene, *Pittonia* 5: 89. 1902

Infrequent or occasional in northern and central New York.

21 ***Viola incognita*** Brainerd, *Rhodora* 7: 84. 1905

Large-leaved white violet

Moist woodlands and rich mountain forests. The most abundant white-flowered violet of northern and central New York. Frequent southward to the northern part of Long Island, but largely absent from most sections of the coastal plain.

Var. **Forbesii** Brainerd, Torr. Club. Bul. 38: 8. 1911. Frequent in northern and central New York.

Forms which are intermediate between this and the preceding species, and which may be of hybrid origin occur rarely in northern and central New York.

22 ***Viola blanda*** Willd. Hort. Berol. *pl.* 24. 1806

Sweet white violet

V. amoena LeConte, Ann. Lyc. N. Y. 2: 144. 1828. Not Symons, 1798.

V. LeConteana G. Don, Gen. Syst. 1: 324. 1831

V. blanda var. *palustriformis* A. Gray, Bot. Gaz. 11: 255. 1886

A. alsophila Green, *Pittonia* 4: 7. 1899

In cool ravines and moist shady slopes, usually in rich humus soil. Common across the State outside of, and chiefly south of the Adirondack region, and not reported from the higher Catskills.

23 ***Viola pallens*** (Banks) Brainerd, *Rhodora* 7: 247. 1905

Northern white violet

V. rotundifolia var. *pallens* Banks, in DC. Prodr. 1: 295. 1824

V. blanda Am. Auth., in large part. Not Willd.

In mossy or springy places and along cold brooks. Common across the State northward, especially throughout the mountainous sections. Less common southward to northern Long Island and rare on Staten Island.

× ***Viola mollicula*** (*V. pallens* × *primulifolia* Dowell, Torr. Club Bul. 37: 168. *pl.* 18. 1910). Type from Staten Island.

× ***Viola sub lanceolata***. (*V. lanceolata* × *pallens* House, N. Y. State Mus. Bul. 243-244: 26. 1923. Newcomb, Essex county, House

24 ***Viola primulifolia*** L. Sp. Pl. 934. 1753

Primrose-leaved violet

In moist open places. Common on Long Island and Staten Island. Rare and local northward to Westchester county.

25 *Viola lanceolata* L. Sp. Pl. 934. 1753

Lance-leaved or water violet

Open bogs and low or wet meadows, fields and shores. Common in the southern part of the State. Local northward to Albany, Washington, Saratoga, Fulton, Hamilton and Essex counties (Lake Harris, 1550 feet altitude, *House*) west to Oneida, Onondaga and St Lawrence counties.

x *Viola modesta*. (*V. lanceolata* x *primulifolia* Dowell, l.c. 176. pl. 17). Type from Staten Island.

26 *Viola rotundifolia* Michx. Fl. Bor. Am. 2: 150. 1803

Round-leaved yellow violet

V. clandestina Pursh, Fl. Am. Sept. 173. 1814

In cool rich woods usually in moist or rich leaf mold. Common throughout the Adirondack region and the northern counties. Less frequent or locally common southward to Staten Island and westward across the State to Lake Erie. Not reported from Long Island.

27 *Viola odorata* L. Sp. Pl. 934. 1753

English, March or sweet violet

Native of Europe. Common in cultivation and occasionally escaped or established in many sections of the State.

28 *Viola eriocarpa* Schw. Am. Jour. Sci. 5: 75. 1822

Smoothish yellow violet

V. pubescens var. *scarbriuscula* T. & G. Fl. N. Am. 1: 142. 1838

V. scarbriuscula Schw., T. & G., l.c. as syn.

V. gibbosa Raf.; Ging. in DC. Prodr. 1: 305. 1824

In moist or low woodlands. Common across the State outside of the higher Adirondack region.

If Schweinitz had inverted the designated character of the indument of the capsules for this species and the next, his characterization of the two would fit our two yellow flowered caulescent violets exactly. *V. eriocarpa* in this State usually has glabrous or nearly glabrous capsules, and is best characterized by the narrower, more nearly ovate, smaller leaves including the few or several basal ones which are commonly present at the base of the one or more stems which arise from a single root, and which are usually ascending and not as stout and erect as in *V. pubescens*. The stems and leaves are also nearly or quite glabrous.

Since the above paragraph was written, Fernald (*Rhodora* 23: 275. 1922) has designated the variety with glabrous capsules as var. *leiocarpa*.

29 *Viola pubescens* Ait. Hort. Kew. 3: 290. 1789

Hairy or downy yellow violet

V. pennsylvanica Michx. Fl. Bor. Am. 2: 149. 1803*V. pubescens* var. *Eriocarpa* Nutt. Gen. 1: 150. 1818*V. pubescens* forma *Eriocarpa* Farwell, Papers Mich. Acad. Sci. 2: 33. 1922

In moist or dry woods, often on shaded banks. Common throughout the State especially northward.

The capsules are usually woolly with a dense white indument in our specimens. Only two specimens (Bald mountain, Rensselaer county, *Peck*; Harrisville, Lewis county, *Peck*) have glabrous or nearly glabrous capsules. This variety with glabrous or nearly glabrous capsules is designated as var. *Peckii* House, N. Y. State Mus. Bul. 243-244: 50. 1923.

30 *Viola canadensis* L. Sp. Pl. 936. 1753

Canada violet

V. curybiaefolia Greene, Pittonia 5: 25. 1902

In upland woods and on shaded banks. Common across the State northward. Southward to Dutchess, Rockland and Delaware counties westward and southward.

31 *Viola rugulosa* Greene, Pittonia 5: 26. 1902*V. Rydbergii* Greene, l.c. 27

A stouter and more strict plant than *V. canadensis*, with broader leaves which are rough pubescent above and notably pubescent beneath, hirtellous on the veins; stems and petioles hirtellous.

Harrisville, Lewis county, *Peck*, 1904, state herbarium.

32 *Viola striata* Ait. Hort. Kew. 3: 290. 1789

Pale or striped violet

V. ochroleuca Schw. Am. Jour. Sci. 5: 69. 1822*V. Lewisiana* DC. Prodr. 1: 297. 1824*?V. debilis* Michx. Fl. Bor. Am. 2: 150. 1803 *

In low woods and shaded soil. Infrequent or rare from St Lawrence and Herkimer counties, southward to Chemung county and westward. Not definitely known from the eastern part of the State.

33 *Viola conspersa* Reichenb. Ic. Crit. 1: 44. 1823

American dog violet

V. debilis Schw., l.c. 7.1. Probably also Michx.**V. asarifolia* Muhl. Cat. 25. 1813*V. Muhlenbergii* Torr. Fl. N. & Mid. U. S. 1: 256. 1824*V. canina* var. *Muhlenbergii* Gray, Bot. Gaz. 11: 292. 1886

* *V. debilis* Michx. This is usually referred to *V. striata* because the petals are stated to be white. It seems strange that so common a species as *V. conspersa* should have been overlooked by Michaux, in favor of an uncommon species like *V. striata*. *V. conspersa* has very pale blue petals, but neither can the creamy yellow colored petals of *V. striata* be called white. That Schweinitz used Michaux's name *debilis* for our *V. conspersa* is significant and Eaton (Man. ed. 2, 495. 1818) also adopts *debilis* as the name for what is now called *conspersa*. *V. uliginosa* of Schweinitz undoubtedly refers to *V. Walteri* House.

In low or shaded soil, and moist woodlands and thickets. Common across the State, but infrequent on the north side of Long Island and on Staten Island, and not reported from the south side of Long Island. Forma **Masoni** Farwell (Papers Mich. Acad. Sci. 2: 33. 1922, as var.), with white flowers, is rare.

x **Viola Malteana**. (*V. conspersa* x *rostrata* Malte & Macoun, Ottawa Nat. 28: 167. 1915), described from Canada, should be looked for in this State where the two parent species occur together.

34 **Viola labradorica** Schrank, Denksch. Bot. Gesell. Regensb. 2: 12. 1818 Alpine dog violet

V. punctata Schw., l.c. 67.

V. Muhlenbergii var. *minor* Hook. Fl. Bor. Am. 1: 78. 1830

Cold boggy places in the northern and higher Adirondacks.

Mount Marcy, *Taylor*. Inlet, Hamilton county, *House*. Norfolk, St Lawrence county, *Mrs O. P. Phelps*.

35 **Viola adunca** J. E. Smith, in Rees Cyclop. 38: No. 63. 1817 Sand violet

V. canina var. *puberula* S. Wats.; Gray, Man. ed. 6, 81. 1890

V. sylvestris var. *puberula* Sheldon, Bul. Geol. & Nat. Hist. Surv. Minn. 9: 17. 1894

V. subvestita Green, Erythea 5: 39. 1897

V. huronensis Greene, Leaflets 2: 96. 1910

In sandy or sterile rocky soil. Locally abundant from Lake Champlain westward to the St Lawrence, outside of the higher Adirondacks, southward to Albany county and westward to Lake Erie. Locally common.

Brainerd (Rhodora 15: 109. 1913) describes a var. **glabra** which may be looked for in the western part of the State.

36 **Viola rostrata** Pursh, Fl. Am. Sept. 174. 1814 Long-spurred violet

In moist or rich shaded woodlands and on banks. Common across the State northward, south to the Hudson highlands and Orange county, westward across the State.

Forma **Phelpsiae** House, N. Y. State Mus. Bul. 243-244: 51. 1923, with white flowers, is occasionally seen, the type collected by *Mrs O. P. Phelps* in St Lawrence county. The so-called var. **elongata** Farwell, l.c., has spurs of the flower 15-18 mm long.

37 **Viola Rafinesquii** Greene, Pittonia 4: 9. 1899 Field pansy

V. tenella Muhl. Cat. 26. 1813. Not Poir. 1810

V. bicolor Pursh, Fl. Am. Sept. 1: 175. 1814

V. arvensis of many N. Y. reports. Not Murray, 1770

In fields and open woods. Infrequent on Long Island and Staten Island.

38 *Viola arvensis* Murray, Prodr. Stirp. Goett. 73. 1770

In cultivated fields and their borders. Locally frequent in Monroe county, near Poughkeepsie, New York City and a few other localities. Naturalized from Europe.

39 *Viola tricolor* L. Sp. Pl. 935. 1753 Pansy or heartsease

In waste places. Sparingly escaped from cultivation. Native of Europe.

CUBELIUM Raf. Cat. Bot. Gard. Trans. 13. 1824

Solea Spreng. Pl. Min. Cog. Pug. 1: 22. 1813. Not Spreng. 1800

Cubelium concolor (Forster) Raf., l.c. Green violet

Viola stricta Muhl. Trans. Am. Phil. Soc. 3: 178 (name only). 1793. Pursh, Fl. Am. Sept. 175. 1814. Not Poir. 1808

V. concolor Forester, Trans. Linn. Soc. 6: 309. 1802

Solea stricta Spreng. l.c. 22. 1813. Not Spreng. 1800

Solea concolor Ging. in DC. Prodr. 1: 306. 1824

Ionidium concolor B. & H.; Wats. Bibliog. Ind. 81. 1878

In moist woods and copses. Infrequent or rare from Rensselaer and Dutchess counties westward and southward across the State.

Pine Plains and Mount Ararat, Dutchess county, *Hoysradt* (Torr. Club Bul. 5: 37, 47. 1874). New Lebanon near Shaker settlement. *Beck* (28th Rep't N. Y. State Mus. 82. 1876). Vernon, Oneida county *Douglass*, Kneiskern; Penn Yan, *Sartwell* (Plain, Cat. Pl. Oneida Co. 62. 1865). Manlius, Onondaga county, *Wibbe*. Rare, Cayuga and Tompkins counties, *Dudley* (Cayuga Flora, 13. 1886). Wayne county, *Hankenson*; Monroe county at Gates, *Fish*; Dugway, *Strecker*; Power Mills, *Boughton* (Proc. Rochester Acad. 3: 49. 1896; 5: 90. 1917).

Family 83 **OPUNTIACEAE** H. B. K., Nov. Gen. 6: 64. 1823

CACTACEAE Lindl. Nat. Syst. ed. 2, 53. 1836

Cactus family

OPUNTIA (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754**Opuntia Opuntia** (L.) Coulter, Contr. Nat. Herb. 3: 432. 1896

Eastern prickly pear

Cactus Opuntia L. Sp. Pl. 468. 1753

Opuntia vulgaris Mill. Gard. Dict. ed. No. 1. 1768

In dry sandy soil or on rocks along the coast of Long Island sound in Westchester county and Bronx county. Frequent on Long Island and Staten Island. Rare northward to Columbia and Ulster counties.

Clinton (19th Rep't N. Y. State Mus. 78. 1866) cites a letter from Dr James Hadley in which it is made clear that the reference to this species at Fairfield, Herkimer county, in Torrey's

Flora New York 1843, was a mistake, but Hadley also states that the species was found near Syracuse in 1856 or 1857 by his friend, James L. Bennet, of Providence, R. I. who was well acquainted with the species. It has not however, been found there since, and this report is also based, no doubt, upon some error.

Family **DAPHNACEAE** J. St. Hil. Expos. Fam. 1: 180. 1805

(*Thymeleaceae* Reichenb. 1828)

Mezereum family

DAPHNE (Tourn.) L. Sp. Pl. 356. 1753

Daphne Mezereum L. l.c. Spurge laurel, mezereum

In waste places, along fencerows and borders of woods and swamps. Infrequent or locally abundant across the State south of the Adirondacks. Naturalized from Europe.

DIRCA L. Sp. Pl. 358. 1753

Dirca palustris L. Sp. Pl. 358. 1753

Leatherwood, moosewood, wicopy

In woods and thickets, mostly in wet soil, frequent or common across the State northward. Less frequent in the central, southern and western counties. Rare south of the Hudson highlands to Staten Island. Not reported from Long Island.

Family 85 **ELAEAGNACEAE** Lindl. Nat. Syst. ed. 2, 194. 1817

Oleaster family

LEPARGYRAEA Raf. Am. Mo. Mag. 2: 176. 1817

Shepherdia Nutt. Gen. 2: 240. 1818

Lepargyrea canadensis (L.) Greene, Pittonia 2: 122. 1890

Canadian Buffalo berry

Elacagnus canadensis L. Sp. Pl. 1024. 1753

Shepherdia canadensis Nutt., l.c.

On banks and hillsides, Essex, Schoharie and Jefferson counties westward to Lake Erie.

Central Bridge and Sprakers, Montgomery county, *Peck* (32d Rep't State Mus. 52. 1880). Fairfield, Herkimer county, *Gray*; Trenton Falls *Kuciskern*; Deerfield creek, opposite Utica; east bank of Onondaga lake; rocky sides of Black river, Jefferson county, *Paine* (Cat. Pl. Oneida Co. 122. 1865). Oswego, *House*. Monroe and Orleans counties (Proc. Roch. Acad. 3: 99. 1896).

Family 86 **SALICARIACEAE** Desv. Fl. Anjou. 320. 1827

(**Lythraceae** Lindl. 1836)

Loosestrife family

ROOTALA L. Mant. 2: 175. 1771

Rotala ramosior (L.) Koehne, in Mart. Fl. Bras. 13²: 194. 1875

Toothcup

Ammannia ramosior L. Sp. Pl. 120. 1753

A. humilis Michx. Fl. Bor. Am. 1: 99. 1803

Boykinia humilis Raf. Aut. Bot. 9. 1840

In swamps. Albany and Schenectady counties southward. Rare.

Around pools and banks of rivulets in the pine-barrens between Albany and Schenectady, *Paine* (Cat. Pl. Oneida Co. 186. 1865). Near Brooklyn, *Torrey* (Fl. N. Y. 1: 228. 1843).

DECODON J. F. Gmel. Syst. Veg. 2: 677. 1791

Decodon verticillatus (L.) Ell. Bot. S. C. & Ga. 1: 540. 1821

Swamp loosestrife, willowherb

Lythrum verticillatum L. Sp. Pl. 446. 1753

Decodon aquaticum J. F. Gmel., l.c.

Anonymos aquatica Walt. Fl. Car. 137. 1788

Nesaea verticillata H.B.K., Nov. Gen. & Sp. 6: 191. 1823

In swamps and shallow water along streams, lakes and ponds. Rare in the upper Hudson valley. Common from Oneida county and the region west of the Adirondacks westward and southward. Frequent south of the Hudson highlands and on Long Island and Staten Island. Not reported from the eastern and central Adirondack region.

LYTHRUM L. Sp. Pl. 446. 1753

1 **Lythrum Salicaria** L., l.c.

Spiked or purple loosestrife

In swamps and wet meadows. Frequent or locally common across the State south of the Adirondacks, and locally northward to Lake Champlain. Naturalized from Europe and in some sections becoming very common.

2 **Lythrum Hyssopifolia** L. Sp. Pl. 447. 1753 Hyssop loosestrife

Hyssopifolia parviflora Opiz, Seznam 53. 1852

Borders of marshes on Long Island and Staten Island. Rare.

3 **Lythrum alatum** Pursh, Fl. Am. Sept. 334. 1814

Wing-angled loosestrife

Pythagorea alata Raf. Jour. Phys. 84: 96. 1819

In low grounds. Locally abundant across the State outside of the Adirondack region, especially in the Ontario lowlands and the southern part of the State. Northward appearing adventive.

PARSONSIA P. Br.; Adans. Fam. Pl. 2: 234. 1763

Cuphea P. Br., l.c.

Parsonsia petiolata (L.) Rusby, Torr. Club Mem. 5: 231. 1894
Blue waxweed, clammy cuphea, tarweed

Lythrum petiolatum L. Sp. Pl. 446. 1753
Cuphea viscosissima Jacq. Hort. Vind. 2: 83. pl. 177. 1772
C. petiolata Koehne, in Engler's. Bot. Jahrb. 2: 173. 1882

In dry soil. Infrequent or rare from Washington county southward and westward. Native in the southern part of the State, but northward often appearing adventive within recent years.

Family 88 **MELASTOMACEAE** R. Br. Exp. Congo, App. 5. 1818
Meadow beauty family

RHEXIA L. Sp. Pl. 346. 1753

1 **Rhexia mariana** L., l.c. Maryland meadow beauty
In pine-barren swamps. Rare on eastern Long Island. East Hampton, *Jelliff* (Torreya 4: 100. 1904).

2 **Rhexia virginica** L., l.c. Meadow beauty, deer grass
In sandy swamps and low meadows. Common on Long Island and Staten Island. Less frequent northward into Westchester county. Locally common east and north of Oneida lake in Oneida and Oswego counties, and reported by *Hough* from Lewis County.

Family 89 **EPILOBIACEAE** Vent. Tabl. du Reg. Veg. 3: 1799
(*Oenotheraceae* Desv.; *Onagraceae* Dumort.)
Evening primrose family

LUDWIGIA L. Sp. Pl. 118. 1753

Section 1 *Isnardia*

Isnardia L., l.c. 120
Dantia (Petit) Des Moul, Act Soc. Linn. Bord. 20: 517. 1859

1 **Ludwigia palustris** (L.) Ell. Bot. S. C. & Ga. 1: 211. 1817
Marsh or water purslane

Isnardia palustris L. Sp. Pl. 120. 1753
L. apetala Walt. Fl. Car. 89. 1788
L. repens Forster, Cat. Pl. N. Am., in Bossu, Travels 2: 22. 1771
L. nitida Michx. Fl. Bor. Am. 1: 87. 1803
L. palustris, β *americana* DC. Prodr. 2: 60. 1825
L. ascendens Hall, in Eaton, Man. ed. 6, 353. 1836

In muddy ditches, swamps and on wet shores. Frequent or common throughout the State except on Long Island where it is rare.

Absent from the pine-barrens. Somewhat variable, but apparently not different from the European form.

Section 2 *Ludwigia*ria

Isnardia, §. *Ludwigia*ria DC. Prodr. 3: 60. 1828

1 *Ludwigia sphaerocarpa* Ell. Bot. S. C. & Ga. 1: 213. 1817
Globe-fruited *ludwigia*

Isnardia sphaerocarpa DC. Prodr. 3: 61. 1828

In swamps and borders of ponds. Long Island and Staten Island, and locally northward into Westchester county. Not common.

2 *Ludwigia alternifolia* L. Sp. Pl. 118. 1753 Seedbox, rattlebox

L. ramosissima Walt. Fl. Car. 89. 1788

L. macrocarpa Michx. Fl. Bor. Am. 1: 89. 1803

L. aurantiaca Raf. Med. Repos. II. 5: 358. 1808

L. salicifolia Poir. in Lam. Encycl. Suppl. 3: 512. 1813

Isnardia alternifolia DC., l.c. 66

In swamps, wet meadows and borders of ponds. Common on Long Island and Staten Island, and in Albany and Schenectady counties. Elsewhere local across the State. Reported from Lewis county by *Hough*.

Ludwigia polycarpa Short & Peter; in T. & G., Fl. N. Am. 1: 525. 1838, occurs in Connecticut, and also south and west of our borders, but has not yet been reported from New York.

EPILOBIUM L. Sp. Pl. 347. 1753

Subgenus *Chamaenerion*

Chamaenerion (Tourn.) Adans. Fam. Pl. 2: 85. 1763

Epilobium, §. *Chamaenerion* Tausch; Ser. in DC. Prod. 3: 40. 1828

1 *Epilobium angustifolium* L., l.c.

Fireweed, great or spiked willowherb

E. spicatum Lam. Fl. Franc. 3: 482. 1778

C. angustifolium Scop. Fl. Carn. ed. 2, 1: 271. 1772

E. amoenum Raf. Med. Repos. II. 5: 354. 1808; Am. Mo. Mag. 2: 266. 1818

In dry or moist soil. Common throughout the State. Most abundant in recent clearings and on recently burned areas.

Forma *albiflorum* (Dumort.) Haussk. Mon. Gatt. Epil. 38. 1884

E. spicatum, β *albiflorum* Dumort. Fl. Belg. 89. 1827

E. angustifolium, β *canescens* Wood, Classbook, 262. 1855

C. angustifolium canescens Britton, Torr. Club Mem. 5: 233. 1894

E. angustifolium forma *albiflorum* Britton, Torr. Club Bul. 17: 126. 1890

Both the petals and the sepals white. Minerva, Essex county, *Peck*. Harrisville, Lewis county, *Peck*.

Forma spectabile (Simmons) Fernald, *Rhodora* 20: 4. 1918

C. angustifolium var. *spectabile* Simmons, *Arkiv. f. Botanik*, 6: No. 17, 14. 1907

In this form the petals are white but the sepals red. Loon Lake Station, Franklin county, *Peck*.

Subgenus *Lysimachion*

Crossostigma Spach, *Nouv. Ann. Mus. Paris* 4: 328. 1835

Epilobium, §. *Lysimachion* Tausch; *Ser.*, l.c. 41

2 *Epilobium hirsutum* L., l.c.

Great hairy willowherb

E. amplexicaule Lam. *Fl. Franc.* 3: 479. 1778

E. ramosum Huds. *Fl. Angl. ed. 1*, 141. 1762

E. grandiflorum Weber; *Wigg. Prim. Fl. Holstat.* 30. 1870

In waste places and in swamps and marshes. Common in the marshes along the Hudson and Mohawk rivers, Oneida lake, Oswego river, Monroe county and Bergen swamp, Genesee county. Becoming abundant in many sections of the State, where not observed a few years ago. Apparently of recent introduction in most sections of the State as it was not noted by Torrey in 1843. Native of Europe.

3 *Epilobium palustre* L. *Sp. Pl.* 348. 1753

Marsh or swamp willowherb

Var. *monticola* Haussk, *Oest. Bot. Zeit.* 29: 119. 1879

E. oliganthum Michx. *Fl. Bor. Am.* 1: 223. 1803

E. tenellum Raf. *Prec. Decouv.* 41. 1814

E. lineare var. *oliganthum* Trelease, *Rep't Missouri Bot. Gard.* 2: 88. 1891

In bogs and in wet meadows and on boggy banks and wet mossy depressions in rocks. Frequent across the State northward, south to Lake George, southern Herkimer county and Oneida county. Rare and local southward to Broome county, according to *Clute*. Not reported westward in the State.

4 *Epilobium lineare* LeConte, *Am. Med. & Phil. Reg.* 2: 138. 1812.

(Name only); *Muhl. Cat.* 39. 1813 Linear-leaved willowherb

E. densum Raf. *Desv. Jour. Bot.* 2: 271. 1814

E. palustre var. *lineare* A. Gray, *Man. ed. 2*, 130. 1856

E. rosmarinifolium Pursh, *Fl. Am. Sept.* 259. 1814. Not DC.

E. squamatum Nutt. *Gen.* 1: 250. 1818

In swamps, marshes and wet meadows. Frequent throughout most sections of the State. Less common southward to the north shore of Long Island.

The ordinary plant, commonly referred here, possesses pink or rosy petals. In the higher and northern Adirondacks it often occurs

with paler petals, and at Fine, St Lawrence county, Peck has collected a form with white petals which seems to agree with *E. palustre* var. *albescens* Wahl. (Fl. Suec. 1: 234. 1824, *E. palustre* var. *albiflorum* Lehm. in Hook. Fl. Bor. Am. 1: 207. 1830, and in part of T. & G. Fl. N. Am. 1: 490. 1838).

5 *Epilobium strictum* Muhl. Cat. 39. 1813

Downy or soft willowherb

? *E. ciliatum* Raf. Med. Repos. II. 5: 361. 1808

E. molle Torr. Fl. U. S. 1: 393. 1824. Not Lam. 1805

In bogs and swamps. Frequent across the northern part of the State, southward to Dutchess, Greene, Ulster and Delaware counties and central New York. Rare westward to Lake Erie and southward along the Pennsylvania border counties. Reported from Westchester and Bronx counties.

6 *Epilobium coloratum* Muhl.; Willd. Enum. 1: 411. 1809

Purple-leaved or purple-veined willowherb

E. tetragonum Pursh, Fl. Am. Sept. 259. 1814

In low grounds. Common throughout most sections of the State, except the higher mountains.

7 *Epilobium glandulosum* Lehm.; Pug. 2: 14. 1830

Var. *adenocaulon* (Haussk.) Fernald, Rhodora 20: 35. 1918

Northern willowherb

E. adenocaulon Haussk. Oest. Bot. Zeit. 29: 119. 1879

In moist ground and in marshes. Common or frequent across the northern part of the State, southward to the Catskill mountains. Less common southward and rare on Long Island. Not reported from Staten Island, but frequent westward in the State.

Var. *perplexans* (Trelease) Fernald, l.c.

E. adenocaulon var. ? *perplexans* Trellease, Rep't Missouri Bot. Gard. 2: 96. 1891

E. perplexans Coult. & Nelson, Bot. Rocky Mts. 337. 1909

Chiefly in the rocky mountain region but reported eastward in the region of the Great Lakes and in northern New York.

8 *Epilobium Hornemanni* Reichenb. Icon. Crit. 2: 73. 1824

Alpine willowherb

E. nutans Hornem. Fl. Dan. 8: pl. 1387. 1810. Not F. S. Schmidt

E. alpinum var. *majus* A. Gray, Man. ed. 5, 177. 1867

E. alpinum, of N. Y. reports, not L.

Moist places near the summit of Mount Marcy, Peck.

E. anagallidifolium Lam. has been reported from northern New York, but not confirmed, and is probably based upon specimens of *E. Hornemanni*, wrongly determined. A. H. Moore (*Rhodora* 11: 147. 1909), assigns *E. alpinum* L., as the correct name of our plant, with pink or purplish flowers, but Fernald (*Rhodora* 20: 36-38. 1918) does not agree with this.

OENOTHERA L. Sp. Pl. 346. 1753

Onagra (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754

1 **Oenothera cruciata** Nutt.; G. Don, Gen. Syst. 2: 686. 1832
Small-flowered evening primrose

O. biennis var. *cruciata* T. & G. Fl. N. Am. 1: 492. 1840

Onagra cruciata Small, Torr. Club Bul. 23: 169. 1896

In sandy soil. Occasional across the northern part of the State.

2 **Oenothera biennis** L. Sp. Pl. 346. 1753

Common evening primrose

Usually in dry soil in fields, open woods and waste ground. Common.

This species is subject to extensive mutation and has been the object of considerable study and cultural experiment, in order to determine the extent and character of the mutants. H. H. Bartlett (The Delimitation of *Oenothera biennis*), in *Rhodora* 15: 48-53. 1913, selects as typical of this species, the common plant of Holland.

The New York segregates of this comprehensive species are being investigated by Doctor Bartlett and will be reported upon elsewhere. Names already proposed for New York forms are:

O. angustissima Gates, *Rhodora* 15: 46. 1913

O. nutans Atkinson & Bartlett, l.c. 83

O. pycnocarpa Atkinson & Bartlett, l.c.

3 **Oenothera muricata** L. Syst. ed 12, 263. 1767

Northern evening primrose

In sandy and gravelly soil. Locally common from the shores of Lake Champlain westward to the St Lawrence, and southward to Schenectady and Albany counties and Long Island, westward to Oneida and Ontario counties and doubtless of wider distribution.

4 **Oenothera canovirens** Steele, Contr. U. S. Nat. Herb. 13: 367. 1911

O. strigosa Rydb. in Britton & Brown, Illus. Fl. ed. 2, 2: 596. 1913

In dry or sandy soil. Van Cortlandt Park, New York City and at Lynbrook, Long Island, *Bicknell* (Torr. Club Bul. 41: 78. 1914).

- 5 *Oenothera Oakesiana* (Gray) Robbins; S. Wats. Bibliog. Ind. 1: 383. 1878 Oakes's evening primrose

Oenothera biennis var. *Oakesiana* Gray Man. ed. 5, 178. 1867

Onagra Oakesiana Britton, Torr. Club Mem. 5: 233. 1894

In sandy soil. Warren county southward to Long Island and westward to Ontario county. Rare.

Luzerne, Warren county, *Peck* (46th Rep't N. Y. State Mus. 21. 1893). Canandaigua, Ontario county, *Gardner* (Proc. Rochester Acad. 5: 90. 1917). Cold Spring Harbor, Floral Park, and frequent on the Hempstead Plains; Fort Schuyler, Long Island Sound and on Staten Island, *Taylor* (Fl. Vic. N. Y. 466. 1915). Orient, Long Island, *Burnham & Latham* (Torreya 14: 247. 1914).

RAIMANNIA Rose, Contr. Nat. Herb. 8: 330. 1905

- 1 *Raimannia laciniata* (Hill) Rose, l.c.

Cut-leaved evening primrose

Oenothera laciniata Hill, Veg. Syst. 12: 64. 1767

O. sinuata L. Mant. 2: 228. 1771

O. minima Pursh, Fl. Am. Sept. 262. pl. 15. 1814

Common in railroad yards, east of Rochester, *Booth* (Proc. Rochester Acad. 5: 17. 1910). Selkirk, Albany county, *House*. Adventive from the West.

- 2 *Raimannia rhombipetala* (Nutt.) Rose, l.c.

Rhombic evening primrose

Oenothera rhombipetala Nutt.: T. & G. Fl. N. Am. 1: 493. 1840

In sandy fields west of Albany, *House*; Wilton, Saratoga county, *Mrs O. P. Phelps*. Probably adventive from the West.

KNEIFFIA Spach, Hist. Veg. 4: 373. 1835 *

- 1 *Kneiffia Allenii* (Britton) Small, Torr. Club Bul. 23: 177. 1896
Allen's sundrops

Oenothera fruticosa var. *humifusa* Allen, Torr. Club Bul. 1: 3. 1870. Not
O. humifusa Nutt. 1818

O. linearis var. *Allenii* Britton, Torr. Club Mem. 5: 235. 1894

In sand, eastern Long Island. Rare.

* Key to the New York species of *Kneiffia*

Mature capsules clavate-linear, not stipitate; hypanthium 20-25 mm long; sepals with spreading-hirsute caudate tips, 2-4 mm long; petals 20-25 mm long. Stems, leaves and capsules hirsute.....*pratensis*
Mature capsules with body clavate to oblong and more or less stipitate.

- 2 *Kneiffia fruticosa* (L.) Raimann; Engl. & Prantl. Nat. Pflanzenfam. 3: 214. 1893 Long-stemmed sundrops

Oenothera fruticosa L. Sp. Pl. 346. 1753

Oenothera linearis Michx. Fl. Bor. Am. 1: 225. 1803

Kneiffia linearis Spach, Hist. Veg. 4: 375. 1835

Kneiffia Michauxii Spach, Am. Sc. Nat. Bot. II. 4: 167. 1835

In moist soil, chiefly south of the moraine on Long Island, and in Van Cortlandt Park, New York City. Locally frequent on Staten Island. Commonly known in recent years under the name of *Kneiffia longipedicellata*, which is identified by Dr S. F. Blake (*Rhodora* 20: 51. 1918) as identical with the Linnaean type of *Oe. fruticosa*.

- 3 *Kneiffia pratensis* Small, Fl. S.E. U.S. 842, 1885. 1903
Prairie sundrops

Kneiffia Sumstinei Jennings, Ann. Carnegie Mus. 3: 480. pl. 19. 1906.

Oenothera pratensis Robinson, *Rhodora* 10: 34. 1908

In rather dry soil. Frequent from Ohio to Wisconsin, Iowa and Arkansas. Adventive in southern and southeastern New York. Doctor Pennell (*Bull. Torrey Bot. Club.* 46: 370. 1919) places Rafinesque's *Oenothera pilosella*, as a synonym of *Kneiffia tetragona*, but a careful consideration of Rafinesque's species would seem to indicate that he was describing the prairie species here designated as *K. pratensis*.

- 4 *Kneiffia velutina* Pennell, *Bull. Torrey Bot. Club* 46: 370. 1919
Dry sandy soil. Apparently restricted in distribution to the Hempstead plains of western Long Island. This has also been referred to *Kneiffia riparia* (Nutt.) Small.

Petals of earlier flowers 12-15 mm long; inflorescence when in fruit much less than one-half height of plant.

Mature capsule body decidedly clavate, pubescent with normally incurved glandless hairs, (in *velutina*) with some interspersed gland-tipped hairs.

Stipe and capsule body both pubescent with glandless hairs, the stipe frequently equalling or somewhat exceeding the capsule-body.

Plant erect.....*fruticosa*

Plant diffusely spreading.....*Allenii*

Stipe pubescent with gland-bearing hairs; frequently also such are interspersed with the incurved glandless hairs of the capsule-body; stipe always shorter than capsule-body; leaves lanceolate, softly densely pubescent, 2-4 cm long; capsule-body clavate-oblong.....*velutina*

Mature capsule-body oblong or nearly so; pubescence with short straight gland-tipped hairs or becoming glabrate; stem leaves lanceolate, scarcely paler beneath; stem sparsely pubescent to rarely glabrous; petals of earlier flowers 18-25 mm long; stipe shorter than capsule-body *tetragona*

Petals of earlier flowers 5-10 mm long; inflorescence in fruit usually more than one-half the height of the plant; capsule sparsely pubescent with gland-tipped hairs, the young inflorescence nodding.....*perennis*

- 5 *Kneiffia tetragona* (Roth) Pennell, Bull. Torrey Bot. Club 46: 370. 1919 Common sundrops

? *Oenothera mollissima* Walt. Fl. Car. 129. 1788
Oenothera tetragona Roth, Catalecta 2: 39. 1800
Oenothera canadensis Goldie, Edinb. Phil. Jour. 6: 325. 1822
Oenothera hybrida Michx. Fl. Bor. Am. 1: 225. 1803
Oenothera fruticosa ambigua Nutt. Gen. 1: 247. 1818
Kneiffia suffruticosa Spach, Hist. Veg. 4: 374. 1835
Kneiffia floribunda Spach, l.c. 376
Kneiffia fruticosa and *Oenothera fruticosa* of recent floras

In dry soil. Frequent across the State south of the Adirondacks. Locally northward in the Lake George and Lake Champlain regions. Rare in the western counties of the State. Becoming very common southward, especially on Long Island and Staten Island. I am not able to identify this with Walter's *O. mollissima*, but believe that Walter's name applies to the form of this species very common in the uplands of the Carolinas.

- 6 *Kneiffia perennis* (L.) Pennell, Bull. Torrey Bot. Club 46: 372. 1919 Small sundrops

Oenothera perennis L. Syst. ed. 10, 998. 1759
Oenothera pumila L. Sp. Pl. ed. 2, 493. 1762
Oenothera chrysantha Michx. Fl. Bor. Am. 1: 225. 1803
Oenothera pusilla Michx. l.c.
Kneiffia Michauxii Spach, Ann. Sc. Nat. Bot. II. 4: 167. 1835
Kneiffia pumila Spach, Hist. Veg. 4: 377. 1835
Oenothera pumila chrysantha Gordinier & Howe, Flora Rensselaer County, 14-1894

In dry or moist soil. Common across the State northward. Less frequent or rare in the western counties and southward to Long Island.

ANOGRA Spach, Ann. Sci. Nat. (II) 4: 164. 1835

- Anogra pinnatifida* (Nutt). Spach, Nouv. Ann. Mus. Paris 4: 341. 1835 Prairie evening primrose

Oenothera albicaulis Pursh, Fl. Am. Sept. 733. 1814. Not Nutt. 1813
O. pinnatifida Nutt. Gen. 1: 245. 1818
O. Purshii G. Don, Gen. Syst. 2: 688. 1832
Anogra albicaulis Britton, Torr. Club Mem. 5: 234. 1894

A western species adventive at Cobb's hill, Rochester.

GAURA L. Sp. Pl. 347. 1753

- 1 *Gaura coccinea* Pursh, Fl. Am. Sept. 733. 1814 Scarlet gaura

In waste places near Rochester, *Baxter*. Adventive from the west and apparently well established.

- 2 **Gaura biennis** L. Sp. Pl. 347. 1753 Biennial gaura
In dry soil. Lake Champlain south to Long Island and westward across the State. Perhaps indigenous in western New York, but nowhere very common and in the eastern part of the State appearing as though adventive from the West.

- 3 **Gaura sinuata** Nutt.; Ser. in DC. Prodr. 3: 44. 1828 Wavy-leaved gaura
Native of the western states. Adventive near New York City.

Family 90 **CIRCAEACEAE** Nieuwl. Am. Mid. Nat. 3: 184. 1914
Enchanter's nightshade family

CIRCAEA (Tourn.) L. Sp. Pl. 9. 1753

- 1 **Circaea latifolia** Hill, Brit. Herb. 138. 1756 Enchanter's nightshade
C. lutetiana, β , *canadensis* L., l.c.
C. canadensis Forster, Cat. Pl. N. Am. 17. 1771; Muhl. Cat. 2. 1813
C. lutetiana, of N. Y. reports, Not L.

In woods and thickets, often in openings. Common throughout most sections of the State, but rare or absent on the southern side of Long Island.

According to Fernald (*Rhodora* 17: 222-224, 1915) identical with *C. quadrisulcata* (Maxim.) Franchet & Savatier, 1875, native of eastern Asia.

- 2 **Circaea canadensis** Hill, Veg. Syst. 10: pl. 21. f. 2. 1765
C. intermedia Ehrh. Beitr. 4: 42. 1789

A little known species, said to differ from the next by having larger petals, calyx-lobes, anthers and fruit, and the slender root-stock scarcely tuberous thickened; fruit unequally two-celled. Its known range indicates that it may occur in shaded mossy woods in the northern part of the State.

- 3 **Circaea alpina** L. Sp. Pl. 9. 1753 Smaller enchanter's nightshade
C. lutetiana var. *alpina* Eaton. Man. ed. 2, 206. 1818

In cold moist woods and mossy swamps. Common northward across the State. Less frequent southward, and not reported from south of Westchester county.

Family 91 **TRAPACEAE** Dumort. Fl. Belg. 90. 1827

Waternut family

TRAPA L. Sp. Pl. 120. 1753

Trapa natans L., l.c. Swimming waternut, water caltrop
 Naturalized in Sander's lake, near Schenectady. *Wibbe* (Torr.
 Club Bul. 13: 39. 1886. Peck, 43d Rep't N. Y. State Mus. 16.
 1890). Native of Europe.

Family 92 **GUNNERACEAE** Endl. Gen. 285. 1837**HALORAGIDACEAE** Kl. & Garcke, Bot. Erg. Wald. 151 1852

Water milfoil family

HIPPURIS L. Sp. Pl. 4. 1753

Hippuris vulgaris L., l.c. Bottle brush, mare's-tail, jointweed
Linnopeuce vulgaris Vaill.; Greene, Man. Bot. San Franc. Bay 138. 1894

In swamps and bogs. Infrequent or rare across the northern part of the State, southward to Putnam county and westward to Cayuga lake.

Averyville swamp, Essex county, *Peck* (N. Y. State Mus. Bul. 28: 96. 1899). Stockholm, St Lawrence county, *Mrs O. P. Phelps*. Schenectady, *Beck*; ditches near Cold Spring, Putnam county, *Professor Bailey* (Torrey, Fl. N. Y. 1: 244. 1843). Little York, Cortland county, *Dudley*, 1886. Sander's lake, Schenectady, *Pearson*; Schuyler lake, Otsego county; Alexandria Bay, *G. W. Clinton*; Cayuga lake, *J. Smith* (Paine, Cat. Pl. Oneida Co. 82. 1865). Formerly at Union Springs, Cayuga county (*Dudley*).

PROSERPINACA L. Sp. Pl. 88. 1753

1 **Proserpinaca palustris** L., l.c. Mermaid weed

In swamps and marshes. Infrequent from Rensselaer county westward to Wayne and Ontario county and southward. Not reported from the Adirondack region, nor from west of Ontario county.

P. intermedia Mackenzie, *Torreya* 10: 250. 1910, doubtless a fertile hybrid between *P. palustris* and *P. pectinata*, may be looked for on Long Island.

2 **Proserpinaca pectinata** Lam. Tabl. Encycl. pl. 50. f. 1. 1: 214. 1791

Cut-leaved mermaid weed

P. pectinacea T. & G. Fl. N. Am. 1: 528. 1840

In sandy swamps near the coast. Rare.

Lake Ronkonkoma and Manorville, Long Island, *Taylor* (Fl. Vic. N. Y. 469. 1915). Manorville, *Peck*.

MYRIOPHYLLUM (Vaill.) L. Sp. Pl. 992. 1753

1 **Myriophyllum spicatum** L. Sp. Pl. 992. 1753

Spiked water milfoil

In rather deep water. Frequent northward across the State. Rare southward to Dutchess, Chenango and Chemung counties and westward to Lake Erie.

The American form of this species is regarded by Fernald (*Rhodora* 21: 120. 1919) as distinct from the European plant and is described anew as **M. exalbescens** Fernald.

2 **Myriophyllum verticillatum** L. Sp. Pl. 992. 1753

Whorled water milfoil

In deep or shallow water. Occasional or locally frequent across the State northward, south to Dutchess and Schenectady counties and westward to Monroe county.

Dutchess county, *Taylor* (Fl. Vic. N. Y. 470. 1915). Sander's lake, Schenectady, *Pearson*; Oneida county, *Kneiskern* (Paine, Cat. Pl. Oneida Co. 81. 1865). Schenectady, *Beck*. Sacandaga river, Fulton county, *A. Olsson*. Utica, *Haberer*. Rare in Irondequoit bay, *Booth, Fish*; Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 65. 1896).

Var. *pectinatum* Wallr., is recorded from western New York

3 **Myriophyllum alterniflorum** DC. Fl. Franc. Suppl. 529. 1815

Loose-flowered water milfoil

Very rare across the northern part of the State. Stockholm, St Lawrence county, *Mrs O. P. Phelps*, and reported from Lake Champlain.

4 **Myriophyllum tenellum** Biegel. Fl. Bost. ed. 2, 346. 1824

Slender water milfoil

M. nudum LaPylaie, & *Hylas aphyllus* Bigel.; T. & G. Fl. N. Am. 1: 530. 1840, as syn.

Sandy bottoms of ponds and streams. Infrequent across the State northward, and on Long Island.

Mud pond near Edmond's ponds, Essex county, and not uncommon in the Adirondacks, *Peck* (34th Rep't N. Y. State Mus. 54. 1881). North Elba, *Peck* (N. Y. State Mus. Bul. 28: 96. 1899). Cascade lakes, *Killip*. Beaver lake, Tract No. 4, Lewis county, *B. D. Gilbert* (Torr. Club Bul. 6: 362. 1879). Diana, Lewis county, *Hough*. Outlet of Lake Pleasant, Hamilton county, *House*. Sacandaga river, Fulton county, *A. Olsson*. North Salem, Westchester county, *Mead*. Wading River, *E. S. Miller* (Torr. Club Bul. 2: 40. 1871). Luce's pond, Northville, Long Island, *H. W. Young* (Torr. Club Bul. 4: 41. 1873). Lake Harris, Newcomb, Essex county, *House*.

- 5 *Myriophyllum humile* (Raf.) Morong, Torr. Club Bul. 18: 242.
1891 Low water milfoil

Burshia humilis Raf. Med. Repos. (II) 5: 357. 1808

M. ambiguum Nutt. Gen. 2: 212. 1818

M. procumbens Bigel. Fl. Bost. ed. 2, 346. 1824

In ponds and on their muddy borders, chiefly in the pine-barren section of Long Island.

Grades into forma **natans** (DC.) Fernald, Rhodora 10: 52. 1908 (*M. ambiguum* var. *natans* DC. Prodr. 3: 70. 1828),—and into forma **capillaceum** (Torr.) Fernald, l.c. (*M. capillaceum* Torr.; *M. ambiguum* var. *capillaceum* T. & G.).

Smithtown, Suffolk county, *Peck* (N. Y. State Mus. Bul. 67: 33. 1903). Fisher's Island, *Zabriskie* (46th Rep't N. Y. State Mus. 43. 1893). Wading River, *E. S. Miller* (Torr. Club Bul. 2: 40. 1871). East Marion, Suffolk county, *Burham & Latham* (Torreya 14: 247. 1914). Montauk Point, *House*.

- 6 *Myriophyllum heterophyllum* Michx. Fl. Bor. Am. 2: 191.
1803 Various-leaved water milfoil

In ponds and lakes. Oneida county westward. Rare.

Long lake, Oneida county, *Haberer*. Irondequoit bay, Monroe county, *Booth* (Paine, Cat. Pl. Oneida Co. 81. 1865). Sodus Bay, Wayne county, *Fish*; Kendall, Orleans county, *Baxter* (Proc. Rochester Acad. 3: 65. 1896). Niagara Falls, *A. Gray* (State herb.). Lake View, Jefferson county, *House*.

- 7 *Myriophyllum pinnatum* (Walt.) B.S.P. Prel. Cat. N. Y. 16.
1888 Pinnate water milfoil

Potamogeton pinnatum Walt. Fl. Car. 90. 1788

M. scabratum Michx. Fl. Bor. Am. 2: 190. 1803

In ponds on eastern Long Island. Rare.

Rosedale, *Taylor* (Fl. Vic. N. Y. 470. 1915). Greenport, *Burnham & Latham* (Torreya 14: 247. 1914).

- 8 *Myriophyllum Farwellii* Morong, Torr. Club Bul. 18: 146.
1891 Farwell's water milfoil

In still water. Rare across the northern part of the State. Sacandaga river, Fulton county, *A. Olsson*.

Family 93 **HEDERACEAE** Linn. Ord. Nat. 1764

(**ARALIACEAE** Vent. Tabl. 3: 2. 1799)

Ginseng family

ARALIA (Tourn.) L. Sp. Pl. 273. 1753

- 1 *Aralia spinosa* L., l.c. Hercules' club, spikenard tree

In low grounds, chiefly along streams. Rare from southern New York southward.

Churchill's lake, *Clute*; Apalachin, *Fenno*; mouth of Cayuta creek, *Millsbaugh* (Clute, Fl. Upper Susquehanna 48. 1898). Judd's Falls, Tompkins county, *Dudley* (Cayuga Flora 41. 1886). Silver Creek and Panama, Chautauqua county, *Burgess* (Day, Pl. Buffalo 37. 1883). In some of these localities stated to be an escape from cultivation. Reported as established northward to southern Onondaga county.

2 *Aralia racemosa* L. Sp. Pl. 273. 1753

American spikenard, Indian root

In rich woods. Common throughout the State northward. Less frequent southward and rare on Long Island and Staten Island.

3 *Aralia nudicaulis* L. Sp. Pl. 274. 1753

Wild or Virginian sarsaparilla

In woods, thickets and openings. Common in most sections of the State. Less frequent southward and rare on Long Island.

Forma *prolifera* (Apgar) Britton, with flowers in compound umbels. White Plains *Miss P. A. McCabe* (Torr. Club Bul. 17: 124. 1890).

Var. *elongata* Nash (Torr. Club Bul. 20: 374. 1893), with somewhat longer, narrower leaflets which are paler beneath. Cairo Round Top, Greene county.

4 *Aralia hispida* Vent. Hort. Cels. pl. 41. 1800

Bristly sarsaparilla

A. Muhlenbergiana R. & S. Syst. 6: 704. 1820

In sandy or rocky soil in woods, clearings, thickets and old fields. Common across the State northward and westward to Lake Erie, outside of the calcareous districts. Less frequent southward and infrequent or rare on Long Island. Not reported from Westchester county.

PANAX L. Sp. Pl. 1058. 1753

Ginseng Adans. Fam. Pl. 2: 102. 1763

1 *Panax quinquefolia* L., l.c.

Ginseng

P. americanum Raf. New Fl. 4: 58. 1838

Aralia quinquefolia Decn. & Planch. Rev. Hort. 104. 1854

G. quinquefolia Wood, Bot. & Flor. 142. 1873

In rich or moist woodlands. Frequent or local, at least formerly so, northward in the State. Less common or rare southward to Rockland county and westward to Lake Erie.

2 *Panax trifolium* L., l.c. 1059

Dwarf ginseng or groundnut

P. lanceolatum Raf., l.c. 57

Aralia trifolia Decn. & Planch., l.c.

G. trifolium Wood, l.c.

In moist woods and thickets. Frequent or common throughout the State except the pine-barrens of Long Island where it is rare or absent.

Hedera Helix L. Sp. Pl. 202. 1753. The English or European ivy, belongs to this family. It is common in cultivation, and long persistent in neglected places, and rarely seems to spread along old walls etc., especially in southern New York.

Family 94 **AMMIACEAE** Presl. Delic. Prag. 1. 1822

(*Umbelliferae*)

Carrot family, parsley family

SANICULA L. Sp. Pl. 235. 1753

1 **Sanicula marylandica** L., l.c. Black snakeroot or sanicle
Triclinum marilandicum Raf. Am. Mo. Mag. 267. 1818

In rich woods and thickets. Frequent or common throughout the State, but rare in the higher Adirondacks and absent from the pine-barrens of Long Island.

2 **Sanicula gregaria** Bicknell, Torr. Club Bul. 22: 354. 1895
Clustered snakeroot

In moist woods and thickets. Locally frequent across the State south of the Adirondacks, and on Staten Island and on Long Island, north of the moraine.

3 **Sanicula canadensis** L., l.c. Short-styled snakeroot
S. marylandica var. *canadensis* Torr. Fl. U. S. 302. 1824

In dry woodlands. Frequent or common across the State northward, and in the Adirondacks up to 2000 feet altitude. Not reported from the pine-barrens of Long Island.

4 **Sanicula trifoliata** Bicknell, Torr. Club Bul. 22: 359. 1895
Large-fruited snakeroot

In hilly woods and thickets. Infrequent or rare.

Near Yonkers and Onteora, *Taylor* (Fl. Vic. N. Y. 476. 1915). Utica, *Haberer*. Meridian, Cayuga county, *House*. Infrequent in Monroe county (Proc. Rochester Acad. 3: 68. 1896).

DAUCUS (Tourn.) L. Sp. Pl. 242. 1753

Daucus carota L., l.c. Wild carrot
D. vulgaris Bub. Fl. Pyren. 2: 402. 1900

In fields and waste places. Very common and an obnoxious weed in most cultivated areas. Naturalized from Europe.

TORILIS Adans. Fam. Pl. 2: 99, 612. 1763

Myrrhodes [Moehr.] Kuntze, Rev. Gen. Pl. 268. 1891

Torilis Anthriscus (L.) Gmel. Fl. Bad. 1: 615. 1806

Erect hedge parsley

Tordylium Anthriscus L. Sp. Pl. 240. 1753

Caucalis Anthriscus Huds. Fl. Angl. ed. 2, 114. 1778

M. Anthriscus Kuntze, l.c.

In waste places. Adventive from Europe.

Buffalo, G. W. Clinton (26th Rep't N. Y. State Mus. 48. 1874),
New Drop, Staten Island, Hollick & Britton (Torr. Club Bul. 22:
460. 1895).

WASHINGTONIA Raf. Am. Mo. Mag. 2: 176 Jan. 1818

Osmorhiza Raf., l.c.

Uraspermum Nutt. Gen. 1: 192. 1818

1 Washingtonia Claytoni (Michx.) Britton, in Britton & Brown,
Illus. Fl. 2: 530. 1897 Woolly or hairy sweet cicely

Myrrhis Claytoni Michx. Fl. Bor. Am. 1: 170. 1803

Scandix dulcis Muhl. Cat. 41. 1813

U. hirsutum Bigel. Fl. Bost. ed. 2, 112. 1824

O. dulcis Raf. Med. Bot. 2: 249. 1825

O. villosa Raf., l.c.

O. brevistylis DC. Prodr. 4: 232. 1830

O. Claytoni Clarke, in Hook. f. Fl. Br. Ind. 2: 690. 1879

U. Claytoni Nutt. Gen. 1: 193. 1818, as to syn. Michx., and excl. descr.

In woods and thickets. Frequent or common throughout the
State outside of the higher Adirondacks, southward to the north
shores of Long Island.

2 Washingtonia longistylis (Torr.) Britton, l.c.

Smoother sweet cicely, aniseroot

U. Claytoni Nutt., l.c. as to descr., excel. syn. Michx.

Myrrhis longistylis Torr. Fl. U. S. 310. 1824

O. cordata Raf. Med. Fl. 2: 249. 1825

O. longistylis DC., l.c.

Myrrhis aristata MacM. Met. Minn. 398. 1893. (Doubtfully *Chaerophyllum*
aristatum Thunb. Fl. Jap. 1784)

In woods. Frequent or common northward across the State and
westward to Lake Erie. Usually less frequent southward, and rare
on Long Island. The typical form has glabrous stems.

Var. *bracycoma* (Blake) comb. nov. (*O. longistylis* var. Blake,
Rhodora 25: 110. 1923), with stems and petioles densely pubescent
with hairs 0.3—0.8 mm long, is reported from North Harpersfield,
Topping.

Var. *villicaulis* (Fernald) House, N. Y. State Mus. Bul. 243-244:
56. 1923 (*O. longistylis* var. *villicaulis* Fernald, Rhodora 10: 52.

1908), with stems and petioles densely villous with spreading hairs 1 to 2 mm long, has been collected at Cold Spring, Long Island, Percy Wilson.

CHAEROPHYLLUM (Tourn.) L. Sp. Pl. 258. 1753

1 **Chaerophyllum procumbens** (L.) Crantz, Class. Umb. 77. 1767
Spreading chervil

Scandix procumbens L. Sp. Pl. 257. 1753

In moist ground. Infrequent or rare from Wayne, Tompkins and Chemung counties westward and southward.

2 **Chaerophyllum sylvestre** L. Sp. Pl. 258. 1753

Anthriscus sylvestris Hoffm. Gen. Umb. 40, 46, pl. l. f. 19. 1814

Native of Europe, and rare as a waif or adventive plant in ballast on Staten Island.

DERINGA Adans. Fam. Pl. 2: 498. 1763

Cryptotaenia DC. Mem. Omb. 42. 1829

Cyrtospermum Raf.; DC. Prodr. 4: 118. 1830

Deringa canadensis (L.) Kuntze, Rev. Gen. Pl. 266. 1891

Honewort

Sison canadense L. Sp. Pl. 252. 1753

Cryptotaenia canadensis DC., l.c.

Myrrhis canadensis Nutt. Gen. 1: 192. 1818

Cyrtospermum trifoliatum Raf., DC., l.c. 119

In woods and thickets. Frequent or common throughout most sections of the State except the higher Adirondacks and rare on Long Island.

ANETHUM (Tourn.) L. Sp. Pl. 263. 1763

Anethum graveolens L., l.c.

Dill

In waste places in southern and eastern New York. A rare adventive from Europe.

PASTINACA L. Sp. Pl. 262. 1753

Pastinaca sativa L., l.c.

Wild parsnip

In waste places, roadsides and fields. Common. Naturalized from Europe.

HIPPOSELINUM (Dalrech.) Britton & Rose, in Britton &

Brown, Illus. Fl. ed. 2, 2: 634. 1913

Hipposelinum Levisticum (L.) Britton & Rose. l.c.

Lovage

Ligusticum Levisticum L. Sp. Pl. 250. 1753

Levisticum officinale Koch, Nov. Act. Nat. Cut. 12¹: 101. 1824

Levisticum Levisticum Karst. Deutsch. Fl. 844. 1882

Roadsides and waste ground. A rather infrequent escape from cultivation, or rarely established. Native of Europe.

HERACLEUM L. Sp. Pl. 249. 1753

Heracleum lanatum Michx. Fl. Bor. Am. 1: 166. 1803

Cow parsnip

In moist ground, usually in the open, rarely in thickets or open woods. Frequent across the State northward and westward to Lake Erie. Rare on Long Island and Staten Island. Not reported from the Catskills, according to *Taylor*.

CONIOSELINUM Hoffm. Umb. ed. 2, 185. 1816

Conioselinum chinense (L.) B.S.P. Prel. Cat. N. Y. 22. 1888

Hemlock parsley

Athamanta chinensis L. Sp. Pl. 245. 1753

Selinum canadense Michx. Fl. Bor. Am. 1: 165. 1803

C. canadense T. & G. Fl. N. Am. 1: 619. 1840

In woods and cold swamps. Frequent or common across the northern part of the State. Less frequent or rare westward to Wyoming and Genesee counties and southward to Tompkins and Westchester counties.

ANGELICA L. Sp. Pl. 250. 1753

Archangelica Hoffm. Gen. Umb. 166. 1814

1 **Angelica atropurpurea** L., l.c. 251

Great high or purple-stemmed angelica

A. triquinata Michx. Fl. Bor. Am. 1: 167. 1803

Archangelica atropurpurea Hoffm., l.c.

Imperatoria lucida Nutt. Gen. 1: 181. 1818

In swamps and moist ground. Common across the State northward. Less common southward and rare on northern Long Island.

2 **Angelica villosa** (Walt.) B.S.P. Prel. Cat. N. Y. 22. 1888

Pubescent or hairy angelica

Ferula villosa Walt. Fl. Car. 115. 1788

Angelica hirsuta Muhl. Cat. ed. 2, 30. 1818

Archangelica hirsuta T. & G. Fl. N. Am. 1: 622. 1840

In dry rocky or sandy woods. Infrequent or local in Rensselaer county. Increasingly frequent westward across the State and southward to Long Island.

OXYPOLIS Raf. Neogen. 2. 1825

Tiedemannia DC. Mem. Omb. 51. 1829

Archemora DC., l.c. 52

Oxypolis rigidior (L.) Raf.; Ser. Bul. Bot. 218. 1830—Coult. & Rose, Contr. Nat. Herb. 7: 194. 1900.

Cowbane, hemlock or water dropwort

Sium rigidius L. Sp. Pl. 251. 1753

A. rigida DC., l.c.

Oenanthe rigida Nutt. Gen. 1: 189. 1818

In swamps. Rare in southern New York. Tioga county *Mills-paugh* (Torr. Club Bul. 14: 184. 1887).

Var. *longifolius* (Pursh) Britton, Torr. Club Mem. 5: 339. 1894

Sium longifolium Pursh, Fl. Am. Sept. 194. 1814

Oenanthe ambigua Nutt., l.c.

Oxypolis rigidior var. *ambigua* Robinson, Rhodora 10: 35. 1908

Garretson's, Staten Island, *Britton & Hollick* (Torr. Club Bul. 16: 132. 1889).

BUPLEURUM (Tourn.) L. Sp. Pl. 236. 1753

Bupleurum rotundifolium L., l.c.

Hare's ear, thoroughwax, modesty

In cultivated fields. Rare as a weed about cities and towns, especially in southeastern New York. Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 67. 1896). Adventive from Europe.

THASPIUM Nutt. Gen. 1: 196. 1818

1 *Thaspium trifoliatum* (L.) Britton, Torr. Club Mem. 5: 240. 1894
Purple meadow parsnip

Thapsia trifoliata L. Sp. Pl. 262. 1753

Smyrniium atropurpureum Desr. in Lam. Encycl. 3: 667. 1789

Thaspium aureum Nutt., l.c.

Thaspium atropurpureum Nutt., l.c.

T. trifoliatum aureum Britton, l.c. 240

In woods near Ithaca, *C. S. Sheldon* (state herbarium). Doubtless elsewhere in the region from Tompkins county westward and southward.

2 *Thaspium barbinode* (Michx.) Nutt., l.c.

Hairy-jointed meadow parsnip

Smyrniium bardinode Michx. Fl. Bor. Am. 1: 167. 1803

Along streams, from southern Hamilton county westward and southward.

Wells, Hamilton county, *Peck*. Oneida. Madison county, *House*. Rare in Monroe county (Proc. Rochester Acad. 3: 67. 1896). Waverly and Chemung valley, *Clute* (Fl. Upper Susquehanna 46. 1898). Corning, Rathbone and Carrollton, *Peck*.

TAENIDIA Drude, in E. & P. Nat. Pflanzenfam. 3⁸: 195. 1908

Taenidia integerrima (L.) Drude, l.c. Yellow pimpernel

Smyrniium integerrimum L. Sp. Pl. 263. 1753

Zizia integerrima DC. Rap. Pl. Jard. Geneve 3: 7. 1830

Pimpinella integerrima A. Gray, Proc. Am. Acad. 7: 345. 1868

In rocky or sandy soil Rensselaer and Saratoga counties westward to Jefferson county and Lake Erie, southward.

Common on the sandy plains between Albany and Schenectady, in Oneida and Monroe counties. On Long Island found only on the Hempstead plains and at Flushing. Not reported from Staten Island. Not found in the Susquehanna region except westward (Tioga county) according to Clute. Paine reports it northward to the rocky banks of the Black river below Watertown, where it still grows, (House. 1922).

ZIZIA Koch, Nov. Act. Caes. Leop. Acad. 12: 129. 1825

1 **Zizia aurea** (L.) Koch, l.c.

Early or golden meadow parsnip, golden alexanders

Smyrniium aureum L. Sp. Pl. 262. 1753

Sison aureus Spreng.; Schultes, Syst. 6: 410

In fields, meadows and swamps, often along streams. Common or frequent across the State northward. Less common southward.

Rare on Long Island except in and near the Hempstead plains; not reported from the Susquehanna region by Clute.

2 **Zizia cordata** (Walt.) DC. Prodr. 4: 100. 1830

Heart-leaved golden alexanders

Smyrniium cordatum Walt. Fl. Car. 114. 1788

S. trifoliatum Nutt. Gen. 1: 195. 1818 (excl. syn. L.)

In rather dry woods. Frequent on Long Island and Staten Island, northward to Columbia and Ulster counties and the foothills of the Catskills; Albany county westward to Lake Ontario and Lake Erie. A variety with wingless fruit (var. *aptera* A. Gray) is reported from Oriskany, *Kneiskern* (Paine).

APIUM (Tourn.) L. Sp. Pl. 264. 1753

Petroselinum Hoffm. Gen. Umb. 78, 177. 1814

Apium Petroselinum L., l.c. Common or garden parsley

P. hortense, & *P. sativum* Hoffm., l.c. 163. 177

P. Petroselinum Karst. Deutsch. Fl. 831. 1882

Occasional as an escape from gardens. Common in cultivation. Native of Europe.

FOENICULUM Mill. Gard. Dict. Abr. ed. 4, 1754**Foeniculum Foeniculum** (L.) Karst. Deutsch. Fl. 837. 1882

Fennel

Anethum Foeniculum L. Sp. Pl. 263. 1753*F. vulgare* Hill, Brit. Herb. 413. 1756

In waste places, chiefly in the southern part of the State. A rather rare escape from gardens. Native of Europe.

AETHUSA L. Sp. Pl. 256. 1753**Aethusa cynapium** L., l.c.

Fool's parsley or cicely

In waste places, infrequent in several sections of the State. Adventive from Europe.

COELOPLEURON Ledeb. Fl. Ross. 2: 361. 1844**Coelopleuron lucidum** (L.) Fernald, Rhodora 21: 146. 1919

Sea-coast angelica

Angelica lucida L. Sp. Pl. 251. 1753*Ligusticum actaeifolium* Michx. Fl. Bor. Am. 1: 166. 1803*Angelica archangelica* Schrank, Pfl. Labrador. 13. 1818. Not L.*Archangelica peregrina* Nutt.; T. & G. Fl. N. Am. 1: 166. 1840*C. actaeifolium* Coult. & Rose, Contr. U. S. Nat. Herb. 7: 142. 1900

A plant of the northeastern coast of America from southern New England to Labrador. Recorded from the west end of Fisher's island, N. Y. by *A. W. Evans* (*Torreya* 17: 103. 1917). East Marion Long Island. *Roy Latham*, December 15, 1920 (U. S. Nat. Herb.).

CORIANDRUM (Tourn.) L. Sp. Pl. 256. 1753**Coriandrum sativum** L., l.c.

Coriander

In waste ground. An uncommon escape or adventive. Native of Europe.

LIGUSTICUM L. Sp. Pl. 250. 1753*Levisticum* Hill, Brit. Herb. 410. 1756**Ligusticum scoticum** L., l.c.

Scotch or sea lovage, sea parsley

Along salt marshes. Rare on the eastern end of Long Island and on Fisher's island.

Orient Point, *Latham* (N. Y. State Mus. Bul. 139: 25. 1910). Fisher's and Plum Islands, *Charles B. Graves* (Torr. Club Bul. 23: 59. 1896).

LILAEOPSIS Greene, Pittonia 2: 192. Sept. 15, 1891*Crantzia* Nutt. Gen. 1: 177. 1818. Not Scop. 1777*Halloumueliera* Kuntze, Rev. Gen. Pl. 267. Sept. 1891

Lilaeopsis lineata (Michx.) Greene, l.c. Lilaeopsis

Hydrocotyle chinensis L. Sp. Pl. 339. 1753 (?)

H. lineata Michx. Fl. Bor. Am. 1: 162. 1803

C. lineata Nutt., l.c. 178

Halloumellera lineata Kuntze, l.c.

In salt or brackish marshes and muddy river shores. Rare in the southeastern part of the State.

West Point, *Professor Bailey*; Peekskill, *Mead* (Torrey, Fl. N. Y. 1: 263. 1843). Peekskill, *Mead* (Torr. Club Bul. 3: 40. 1872). Wading River, Long Island, *E. S. Miller* (Torr. Club Bul. 12: 87. 1885).

HYDROCOTYLE L. Sp. Pl. 234. 1753

1 *Hydrocotyle umbellata* L., l.c. Many-flowered marsh pennywort

In swamps and low grounds, especially along streams. Infrequent or rare across the State south of the Adirondacks.

2 *Hydrocotyle americana* L., l.c. American marsh pennywort

In wet places. Frequent or common throughout most sections of the State. Less common southward and absent from the pine-barrens of Long Island.

Hydrocotyle verticillata Thunb. Diss. 2: 215. pl. 3. 1798 (*H. interrupta* Muhl. Cat. 30. 1813), occurs from Massachusetts to Florida, but has not been definitely reported from this State.

ERIGENIA Nutt. Gen. 1: 187. 1818

Erigenia bulbosa (Michx.) Nutt., l.c. 188

Harbinger of spring

Sison bulbosum Michx. Fl. Bor. Am. 1: 169. 1803

In moist fields and meadows. Rare from Tioga county westward to Erie county and southward.

Island in the Susquehanna river, Tioga county, *Millsbaugh*. Near Buffalo, *Kinnicutt* (Torrey, Fl. N. Y. 1: 284. 1843). Buffalo and Smoke's creek, West Seneca, Erie county, *Day* (Pl. Buffalo 37. 1883).

CONIUM L. Sp. Pl. 243. 1753

Conium maculatum L., l.c. Poison hemlock, snakeweed

In waste places in moist, wet or rarely dry soil. Frequent or common. Naturalized from Europe.

AEGOPODIUM L. Sp. Pl. 265. 1753

Aegopodium Podagraria L., l.c. Goutweed, herb gerard

In waste places, southeastern part of the State. A rare or infrequent adventive from Europe.

PIMPINELLA L. Sp. Pl. 263. 1753**Pimpinella** *Saxifraga* L., l.c.

Bennet, pimperl, Burnet saxifrage

In waste places in the eastern and southern sections of the State. An infrequent or rare adventive from Europe or an escape from cultivation.

SIUM (Tourn.) L. Sp. Pl. 251. 1753**Sium** *suave* Walt. Fl. Car. 115. 1788 Hemlock water parsnip*S. cicutaeifolium* Schrank, Bair. Fl. 1: 558. 1789*S. lineare* Michx. Fl. Bor. Am. 1: 167. 1803*S. latifolium*, Am. Auth., not L.

In swamps and borders of ponds, streams and lakes. Common in most sections of the State, but absent from the pine-barrens of Long Island.

Forma **Carsoni** (Durand) Fassett. *Rhodora* 23: 113. 1921*S. Carsoni* Durand, in A. Gray, Man. ed. 5, 196. 1867*S. cicutaeifolium* var. *Carsoni* Eames, *Rhodora* 18: 239. 1916

A weak, usually aquatic form with fewer, broader leaf segments. Local in southern New York.

PTILIMNIUM Raf. Neog. 2. 1825**Discopleura** DC. Mem. Umb. 38. 1829**Ptilimnium** *capillaceum* (Michx.) Raf.; Ser. Bul. Bot. 217. 1830

Mock bishopweed

Ammi majus Walt. Fl. Car. 113. 1788. Not L.*Ammi capillaceum* Michx. Fl. Bor. Am. 1: 164. 1803*D. capillacea* DC., l.c., pl. 8

In wet soil, especially brackish meadows along the coast. Frequent or common on Long Island and Staten Island.

CICUTA L. Sp. Pl. 255. 1753**Cicuta** *maculata* L., l.c. 256

Water or spotted hemlock. musquash root

In swamps and low or wet soil. Common throughout most sections of the State, but absent from the pine-barrens of Long Island.

Cicuta *bulbifera* L., l.c. 255 Bulb-bearing water hemlock

In swamps and wet places. Frequent or common throughout the State except the higher Adirondacks and rare on Long Island and Staten Island.

CARUM L. Sp. Pl. 263. 1753

Carum Carui L., l.c.

Caraway

A common weed in most sections of the State. Naturalized from Europe.

CELERI Adans. Fam. Pl. 2: 498. 1753

Celeri graveolens (L.) Britton, in Britt. & Brown. Illus. Fl. ed. 2, 2: 660. 1915

Celery, smallage

Apium graveolens L. Sp. Pl. 264. 1753

Common in cultivation and occasionally spontaneous in certain localities, but rarely established or long persistent. Native of Europe.

Family 95 **NYSSACEAE** Dumort. Anal. Fam. 13. 1829

(Cornaceae Link, Handb. 2: 2. 1831)

Dogwood family

CORNUS (Tourn.) L. Sp. Pl. 117. 1753

Sect. **Microcarpium** Spach (*Thelycrania* Enld.)

Svida Opiz, Seznam 94. 1852

1 **Cornus rugosa** Lam. Encycl. 2: 115. 1786

Round-leaved cornel or dogwood

C. circinata L'Her. Cornus 7. pl. 3. 1788

C. tomentulosa Michx. Fl. Bor. Am. 1: 91. 1803

In shaded, often rocky situations or sometimes in moist woodlands. Frequent or common across the State northward, and in the Adirondacks to 2000 feet altitude, westward to Lake Erie. Rare south of the Hudson highlands and not reported from Long Island or Staten Island.

Cornus Slavinii Rehder, Rhodora 12: 122. 1910. regarded as a hybrid between *C. rugosa* and *C. stolonifera*, is recorded from several localities in Monroe county (Proc. Rochester Acad. 5: 91. 1917) and may occur elsewhere.

2 **Cornus Amomum** Mill. Gard. Dict. ed. 8, Cornus No. 5. 1768

Silky cornel, kinnikinnik

C. sericea L. Mant. 2: 199. 1771

C. lanuginosa Michx. Fl. Bor. Am. 1: 92. 1803

Svida Amomum Small, Fl. SE. U. S. 854. 1903

In low woods and along streams or in open sunny swamps. Common throughout most sections of the State, but rare on southern Long island and absent from the pine-barrens.

Cornus obliqua Raf. Western Review 1: 228. 1819; Am. Nat. 13. 1820 (*Cornus Purpusi* Koehne, in Wittm. Gartenfl. 338. 1899).

Is apparently the western form of *Cornus Amomum*, and is regarded by some authorities as a distinct species. Most, if not all, of the *Cornus Amomum* of the western Ontario lowlands might be referred here, but in many localities about the eastern Ontario lowlands it is scarcely distinct. When typical, it differs chiefly from *C. Amomum* in the glaucous or glaucescent under sides of the leaves, which are densely covered by minute papillae, while in *C. Amomum* the under sides of the usually broader leaves are smoothish and pale or yellowish green. See Rehder (*Trees & Shrubs* 1: 77. *pl.* 39. 1905).

3 *Cornus Baileyi* Coulter & Evans, Bot. Gaz. 15 :37. 1890

Bailey's cornel or dogwood

Lake shores and moist ground. Jefferson county westward.

Native in Durand Park, Rochester, *Dunbar* (Proc. Rochester Acad. 5: 18. 1910). Closely related to *C. asperifolia* Michx. of the Central States.

4 *Cornus stolonifera* Michx. Fl. Bor. Am. 1: 92. 1803

Red-osier cornel or dogwood

C. alba Lam. Encycl. 2: 115. 1786. Not L. 1753

C. sanguinea Marsh. Arb. Am. 36. 1785 — Pursh, Fl. Am. Sept. 109. 1814. Not L.

C. Purshii G. Don, Gen. Syst. 3: 399. 1833

In moist soil. Very common throughout the State north of the coastal plain. Very rare on Staten Island and not definitely known from Long Island.

5 *Cornus femina* Mill. Gard. Dict. ed. 8, *Cornus* No. 4. 1768

Panicked cornel or dogwood

C. candissima Marsh. Arb. Am. 35. 1785. Not Mill. 1768

C. paniculata L'Her. *Cornus* 9. *pl.* 15. 1788

Svida candissima Small, Fl. SE. U. S. 853. 1903

In rich, moist or wet soil. Frequent or common across the State outside of and chiefly south of the Adirondacks, but rare on the coastal plain of Long Island.

Cornus Arnoldiana Rehder, in Sarg. *Trees & Shrubs* 1: 79. *pl.* 40. 1903, is a hybrid between *C. femina* and the western form of *C. amomum* (*C. obliqua* Raf.).

6 *Cornus alternifolia* L. f. Suppl. 125. 1781

Alternate-leaved cornel or dogwood

C. alternata Marsh. Arb. Am. 35. 1785

Svida alternifolia Small, l.c.

In woods and thickets, sometimes in open places. Common across the State northward, but rare on the coastal plain of Long Island.

Section **Cynoxylon** Raf. Med. Bot. 1: 132. 1828

(*Benthamidia* (Spach) Harms)

Cynoxylon Raf. Alsog. Am. 59. 1838
Benthamidia Spach, Hist. Veg. 8: 109. 1839

7 *Cornus florida* L. Sp. Pl. 117. 1753 Flowering dogwood
Cynoxylon florium Raf. l.c.

In woods, thickets and partially cleared hillsides. Frequent across the State from Rensselaer and Saratoga counties to Lewis county and westward to Lake Erie. Increasingly common southward. Forma **xanthocarpa** Rehder (Jour. Arnold Arb. 2: 179. 1921), with yellow fruit, near Oyster Bay, Long Island.

Section **Cornion** Spach (*Arctocrania* Endl.)

Eukrania Raf. Alsog. Am. 59. 1838 (but not as to type)
Chamaepericlymenum Graebn., in Asch. & Graebn. Fl. Nord. Flachl. 225, 539. 1898
Cornella Rydb. Torr. Club Bul. 33: 147. 1906

8 *Cornus canadensis* L., l.c.

Low or dwarf cornel, bunchberry

Eukrania canadensis Raf. l.c.
Chamaepericlymenum canadense Asch. & Graebn., l.c.
Cornella canadensis Rydb., l.c.
Cynoxylon canadense Schaffner, Cat. Ohio Pl. 222. 1914

In moist or cool woods or in open sandy or rocky woodlands and thickets. Common across the State northward. Locally common westward to Lake Erie and southward to Columbia, Ulster and Delaware counties. Formerly on Long Island, *Ruger* (Torr. Club Bul. 1: 32. 1870).

Var. **alpestris** var. nov. Stems low and simple, 6-18 cm high from a slender, creeping and subterranean root stock; leaves scarcely petioled, the upper ones crowded into an apparent whorl of six (or sometimes four), unequal leaves, two of them ovate-lanceolate, pointed at each end, 3-6 cm long, the others conspicuously smaller and narrower, sometimes with an additional pair of leaves on the stem below; bracts of the involucre very unequal, two of them ovate to ovate-lanceolate, short-acuminate at the apex, rounded or acute and stalked at the base, 10-15 mm long, the other two bracts one-half to two-thirds as large and relatively narrower, usually tinged with green; stalks of the bracts 2-3 mm long; flowers whitish or greenish-white; mature fruit red and slightly smaller than in typical *C. canadensis*.

Among mossy rocks, Indian Pass, Essex county, *House* 9454. July 2, 1923. Artists's brook near Chapel pond, Keene Valley, July 12, 1923. In both localities growing among rocks beneath which ice persists throughout most of the summer.

This variety appears to differ from *C. unalaschensis* Ledeb., only in lacking any tint of purple on the petals and the stone of the fruit smooth as in *C. canadensis*.

Forma **elongata** (Peck) House, N. Y. State Mus. Bul. 243-244: 23. 1923

Cornus canadensis var. *elongata* Peck, N. Y. State Mus. Bul. 150: 44. 1911

Collected by Peck in Rensselaer and Essex counties.

NYSSA L. Sp. Pl. 1058. 1753

Nyssa sylvatica Marsh. Arb. Am. 97. 1785

Pepperidge, sour gum, tupelo, black gum

N. multiflora Wang. Holz. 46. pl. 16. 1787

In rich soil, chiefly in swamps northward, in drier situations southward. Common on Long Island and Staten Island, and on the Ontario lowlands from Oneida county westward. Frequent across the southern borders of the State. Local or rare northward to Lake George and Jefferson county.

Series 2 **GAMOPETALAE**

Family 1 **CLETHRACEAE** Klotzsch, Linnaea 24: 12. 1851

CLETHRA L. Sp. Pl. 396. 1753

White alder family

Clethra alnifolia L., l.c. Sweet pepperbush, white or spiked alder

In swamps or wet woods, more rarely in drier soil. Common on Long Island and Staten Island. Rare inland in Westchester county and Skunnemunk mountain, Peck (39th Rep't N. Y. State Mus. 55. 1886). Rockland lake, House.

Family 2 **PYROLACEAE** Agardh. Cl. Pl. 18. 1825

Wintergreen family

PYROLA (Tourn.) L. Sp. Pl. 396. 1753

Subgenus *Orthilia*

Ramischia Opiz, Seznam 82. 1852

Orthilia Raf. Aut. Bot. 103. 1840

Actinocyclus Klotzsch, Akad. Monats. Berlin 1857: 14. 1857

Pyrola, §. *Euppyrola* Gray, Syn. Fl. 2¹: 46. 1886

1 **Pyrola secunda** L., l.c.

One-sided wintergreen

R. secundiflora Opiz, l.c.

O. parvifolia Raf., l.c.

A. secundus Klotzsch, l.c.

R. secunda Garcke, Fl. Deuts. ed. 4, 222. 1858

O. secunda House, Am. Mid. Nat. 7: 134. 1921

In woods and thickets, usually in cool arbor vitae swamps. Common northward across the State. Less frequent southward and rare on Staten Island. Reported from Long Island.

In our northern swamps, merging into the var. *obtusata* Turcz. (*P. secunda* var. *pumila* Paine). All intermediate forms occur with the typical species in a swamp near Newcomb.

Subgenus *Thelaia* (*Pyrola* proper).

Thelaia Alefeld, *Linnaea* 28: 33. 1856

Pyrola, Sect. *Thelaia* Benth. & Hook. Gen. 2

2 *Pyrola oxypetala* Austin; in Gray, Man. ed. 5, 302. 1867

Sharp-petaled wintergreen

On a hillside near Deposit, Broome county, in 1860. Not since collected. See note and plate *CLVIII*, in Torr. Club Bul. 20: 282. 1893.

3 *Pyrola uliginosa* T. & G.; Torr. Fl. N. Y. 1: 453, pl. 69. 1843

Bog wintergreen

P. elata Nutt. Trans. Am. Phil. Soc. II. 8: 270. 1843

Thelaia bracteosa Alef., l.c. 57

P. rotundifolia var. *incarnata* A. Gray, Syn. Fl. 2¹: 47, in part. 1878. Not DC. 1830

P. asarifolia var. *incarnata* Fernald, *Rhodora* 6: 178. 1904

In swamps and bogs. Locally frequent from Hamilton, Otsego, St. Lawrence and Lewis counties westward.

Southern Herkimer county, several localities: Oriskany swamp, etc. *Paine* (Cat. 103. 1865). Northern Otsego county, *House*. Bonaparte swamp, Lewis county, *House*. Hamilton county, *House*. Tonawanda swamp near Akron, Erie county, *Day* and *Clinton* (19th Rep't N. Y. State Mus. 205. 1866). Wayne county, *Sartwell*. Rome, Oneida county, *House*. Oneida, Madison county, *House*. Bergen swamp, Genesee county, *House*. Peterboro, Madison county, *House*. Stockholm and Potsdam, St. Lawrence county, *Phelps*.

4 *Pyrola asarifolia* Michx. Fl. Bor. Am. 1: 251. 1803

Liverleaf wintergreen

In cold wet woods and swamps. Very rare.

Bog near Horicon, Warren county, *Peck* (state herbarium; N. Y. State Mus. Bul. 188: 65. 1916). Reported from near Utica and in Yates county, *Sartwell* (*Paine*, Cat. 103. 1865), but not verified. Newcomb, Essex county, *House*. Depeyster, St. Lawrence county, *Mrs O. P. Phelps*, 1650. 1916.

5 *Pyrola americana* Sweet, Hort. Brit. ed. 2, 341. 1830

Round-leaved American wintergreen

P. rotundifolia Michx. Fl. Bor. Am. 1: 251. 1803. Not L. 1753

P. rotundifolia var. *americana* Fernald, *Rhodora* 22: 122. 1920

In rather dry woods. Frequent across the State outside of the higher Adirondacks.

6 *Pyrola chlorantha* Sw., Sv. Vet.-Akad. Nya Handl. 31: 190. 1810
Greenish-flowered wintergreen

P. minor Pursh, Fl. Am. Sept. 299. 1814. Not L. 1753

In dry woods. Frequent across the State outside of the Adirondacks.

Fernald (*Rhodora* 22: 51. 1920) restricts the typical form of the species to the northern plant (Fort Edward, *Howe*; Bonaparte swamp, *House*; Bolton Landing, *Peck*), with numerous, rather small leaves rounded at both base and apex.

The commoner, and somewhat more southern form in this State, with leaves mostly cuneate at base and truncate or subtruncate at apex, usually fewer in number, he calls var. *paucifolia*.

The var. *convoluta* (Barton) Fernald, l.c. (*P. convoluta* Barton, Fl. Phila. Prodr. 50. 1815), with all parts of the flowers larger (petals 6.5-9 mm long, 3.5-6 mm wide) and with large leaf-blades rounded at base (2-4.5 cm broad), I have not seen in this State, although it may be looked for in the southern sections.

7 *Pyrola elliptica* Nutt. Gen. 1: 273. 1818 Shinleaf

In rich, moist or dry woodlands. Common or at least frequent in most sections of the State.

MONESSES Salisb.; S. F. Gray, Nat. Arr. Br. Pl. 2: 403. 1821

Monanthium Ehrh. Beitr. 4: 148 (Nomina usualia). 1789

Bryophthalmum E. Meyer, Preuss. Pflanzeng. 101. 1839

Odostima Raf. Aut. Bot. 104. 1840

Moneses uniflora (L.) A. Gray, Man. 273. 1848

One-flowered wintergreen

Pyrola uniflora L. Sp. Pl. 397. 1753

Moneses grandiflora S. F. Gray, l.c.

Bryophthalmum uniflorum E. Meyer, l.c.

Moneses reticulata Nutt. Trans. Am. Phil. Soc. 8: 271. 1843

Monanthium uniflorum House, Am. Mid. Nat. 6: 206. 1920

In cool or moist woods, often in mossy swamps. Common across the State northward, especially in the Adirondacks.

Less frequent, local or rare southward to the mountains of Rensselaer, Greene and Delaware counties, westward to Chenango, Tompkins, Onondaga, Wyoming and Chautauqua counties. Apparently absent from the Ontario lowlands.

CHIMAPHILA Pursh, Fl. Am. Sept. 279, 300. 1814

Pseva Raf. Am. Mo. Mag. 2: 266. 1818—Jour. Phys. 89: 261. 1819*

1 *Chimaphila umbellata* (L.) W. Barton, Mat. Med. 1: 17. 1817—
Nutt. Gen. 1: 274. 1818. Pipsissewa, prince's pine

Pyrola umbellata L. Sp. Pl. 396. 1753. Michx. Fl. Bor. Am. 1: 251. 1803
C. corymbosa Pursh, l.c. 300

Pseva umbellata Kuntze, Rev. Gen. Pl. 2: 390. 1891

* The publication of *Pseva* Raf. is sometimes cited as "Jour. Phys. 74: 261 1809", but I have not been able to verify it.

In rather dry, usually coniferous woods. Common across the State northward. Less frequent southward and rare on Long Island. Largely absent from most of the coastal plain area.

The American form of this species has been distinguished from the European under the name of *C. umbellata cisatlantica* Blake, but if a separate name is required for the American form, the name given to it by Pursh (cf. N. Am. Fl. 29: 31, 32, 1914) should be applied.

2 *Chimaphila maculata* (L.) Pursh, l.c. 300

Spotted wintergreen

Pyrola maculata L. Sp. Pl. 396. 1753

P. (or *Chimaphila*) *Durandii* Raf. Atl. Jour. 119. 1832

Pseva maculata Kuntze, l.c.

In dry woods, infrequent or rare across the State south of the Adirondacks, increasingly frequent southward and more common in the pine-barrens and on the coastal plain of Long island than northward. Northward it has been definitely recorded to Otsego, Oneida, Cayuga, Yates, Wayne and Monroe counties.

Family 3 **MONOTROPACEAE** Desv. Fl. Anjou. 172. 1827

Indian pipe family

PTEROSPORA Nutt. Gen. 1: 269. 1818

Pterospora Andromedae Nutt., l.c.

Albany beech drops, pine drops

Monotropa procera Torr.; Eaton, Man. ed. 2, 324. 1818

In rich woods. Rare or infrequent from Lake Champlain westward to the St Lawrence and Niagara rivers southward.

Albany, *Dr E. James*; *Amos Eaton*, *Doctor Wright*, *Tracy*; banks of Seneca lake, *Gray*; Niagara Falls, *Charles Whitlow*; Little Falls, *Cooper*; Port Henry, *Professor A. Hopkins*; Sackett's Harbor, *Doctor Wood*; Oriskany, *George Vasey*; Schenectady and Schoharie, *Kneiskern*; Peekskill, *Mead* (Torrey, Fl. N. Y. 1: 458. 1843).

Factory glen and Jantepusche's-berg, Rotterdam, 6 miles west of Schenectady, *Pearson*; steep sides of Oriskany creek, just above Dexter factory where it was discovered by *Vasey*; Penn Yan, *Sartwell* (Paine, Cat. Pl. Oneida Co. 104. 1865).

Portage, Wyoming county, 1863 and Niagara Falls and Albany, *G. W. Clinton* (19th Rep't Regents 205. 1866). Fitch's bridge, Chemung county, *Lucy*, 1892 (Clute, Fl. Upper Susquehanna 71. 1898). Webster, *Lennon & Baxter*; Seneca Point, Canandaigua lake, *Streeter* (Proc. Rochester Acad. 3: 84. 1896). Woods north of Troy, Rensselaer county, *Wight & Hall* (Cat. Pl. Troy 32. 1836 and in state herb.). Greenbush, *Edwin James* (Torrey in Eaton's Man. 1818).

Port Henry, *Peck* (N. Y. State Mus. Bul. 94: 42. 1905). Hague, Warren county, *Miss H. A. Edwards* (N. Y. State Mus. Bul. 105: 35. 1906). Turin, Lewis county, *Hough*.

Recent search in many of these localities indicates that this species has largely disappeared from places where long ago it was abundant.

MONOTROPA L. Sp. Pl. 387. 1753

Monotropa uniflora L., l.c.

Indian pipe

In moist rich woods. Frequent or common in most sections of the State, but rare in most of the sandy and barren portions of Long Island.

HYPOPITYS Hill, Brit. Herb. 1756—Adans. Fam. Pl. 2: 443. 1763

1 **Hypopitys americana** (DC.) Small, Fl. SE. U. S. 880. 1903

Pinesap, false beech drops

Monotropa hypopitys Michx. Fl. Bor. Am. 1803. Not L. 1753.

H. multiflora var. *americana* DC. Prodr. 7²: 780. 1839

H. lanuginosa var. *glabriuscula* Torr. Fl. N. Y. 1: 457. 1843

In woods. Infrequent throughout most of the State, but not reported from Long Island.

2 **Hypopitys lanuginosa** (Michx.) Nutt. Gen. 1: 271. 1818

Hairy pinesap

Monotropa lanuginosa Michx. Fl. Bor. Am. 2: 266. 1803

In woods. Locally frequent on Long Island and Staten Island and northward to the foothills of the Adirondacks, Lake Champlain, St Lawrence county and westward to Lake Erie.

Var. *rosea* (Torr.) House, N. Y. State Mus. Bul. 243-244: 69. 1923

Monotropa lanuginosa var. *rosea* Torr. Fl. N. Y. 1: 457. 1843

Hypopitys insignata Bicknell, Torr. Club Bul. 41: 413. 1914

In dry woods on Long Island. Infrequent or rare.

Family 4 **ERICACEAE** DC. Fl. Franc. 3: 675. 1805

Heath family

LEDUM L. Sp. Pl. 391. 1753

Ledum groenlandicum Oeder, Fl. Dan. pl. 567. 1771

Labrador tea

L. thymifolium Marsh. Arb. Am. 75. 1785

L. latifolium Ait. Hort. Kew. 2: 65. 1789

L. palustre var. *latifolium* Michx. Fl. Bor. Am. 2: 259. 1803

L. canadense Lodd. Bot. Cab. pl. 1049. 1825

In bogs and in the north, along shores of lakes and ponds. Common across the State northward. Less common southward to Dutchess county and the Catskill mountains, Chenango county and bogs on the higher elevations from Cortland, Tompkins and Tioga county westward.

Ledum decumbens (Ait.) Lodd. (*L. palustre* var. *angustifolium* Hook.), is included in the State Flora by Torrey upon the authority of Pursh. It is a far northern species and probably does not occur within our borders.

AZALEA L. Sp. Pl. 150. 1753

Anthodendron Reichenb. Moessl. Handb. 1: p. xl. 244, 308. 1827

1 **Azalea periclymenoides** Michx. Fl. Bor. Am. 1: 151. 1803

Pinkster flower, wild honeysuckle, purple azalea

Rhododendron nudiflorum Torr. Fl. N. & Mid. U. S. 424. 1824

Azalea nudiflora, of N. Y. Reports, not L.

In dry, sandy or rocky woods and thickets, or northward and westward often in swamps and low moist woods. Frequent or common across the State outside of the higher Adirondacks.

Azalea nudiflora L. (1763), as shown by Blake (*Rhodora* 20: 53. 1918), is an aggregate of three species, known in recent works as *A. nudiflora*, *A. lutea* (*calendulacea*) and *A. canescens*. The name is practically a renaming of *A. lutea* (1753) as no new references are added. The name *A. lutea* in this case is undoubtedly derived from the Colden reference, which is the yellow or flame azalea, and with this taken as the type of *A. lutea*, the name may be retained for that plant.

2 **Azalea prionophylla** Small, N. Am. Fl. 29: 42. 1914

Northern mountain or hoary azalea

A. canescens, of N. Y. Reports, not Michx. 1803

Rhododendron canescens Porter, Torr. Club Bul. 16: 220. 1889

In woods. Infrequent from the southern Catskills southward and westward.

Greene, Ulster and Delaware counties, *Taylor* (Fl. Vic. N. Y. 488. 1915). Pond brook, Broome county, *Clute* (Fl. Upper Susquehanna 70. 1898). Apalachin, Tioga county, and Machias, Cattaraugus county, *Fenno* (53d Rep't N. Y. State Mus. 836. 1900).

3 **Azalea lutea** L. Sp. Pl. 150. 1753 Yellow or flame azalea

A. calendulacea Michx. Fl. Bor. Am. 1: 151. 1803

A. nudiflora L. Sp. Pl. Ed. 2, 214. 1762

Rhododendron calendulaceum Torr. Fl. N. & Mid. U. S. 425. 1824

In dry woods and moist wooded slopes. Formerly in the Hudson highlands and the southern Catskills, and southward on the Appalachian mountains. Not recently collected and probably no longer native in our flora.

4 **Azalea viscosa** L. Sp. Pl. 151. 1753

Swamp pink or honeysuckle, white azalea

Rhododendron viscosum Torr., l.c. 424

In swamps across the southern part of the State. Frequent or common on Long Island and Staten Island and northward into Westchester county. Very rare farther northward but has been reported north to Rensselaer, Albany and Oneida counties.

Var. **glauca** (Lam.) Michx. Fl. Bor. Am. 1: 151. 1803

Azalea glauca Lam. Encycl. 1: 340. 1783

A. hispida Pursh, Fl. Am. Sept. 154. 1814

Rhododendron hispidum Torr., l.c. 425. Not D. Don, 1822

R. glaucum G. Don, Gen. Syst. 3: 848. 1833

Frequent or common in the same range.

Var. **nitida** (Pursh) Britton, Torr. Club-Mem. 5: 248. 1894

A. nitida Pursh, Fl. Am. Sept. 153. 1814

Usually less common, but occasional with the typical form in the southern part of the State.

Bicknell (Torr. Club Bul. 41: 413. 1914), keeps *A. nitida* and *A. glauca* as species, distinct from *A. viscosa*. Some of the northern records in this State for the species (including var. *glauca* are as follows:

Highland lake, Sullivan county, *Peck* (47th Rep't N. Y. State Mus. 30. 1894). Nassau, Rensselaer county, *Wibbe* (Torr. Club Bul. 6: 100. 1876). Halfway between Schenectady and Albany, *Pearson*; near Boonville, Oneida county, *Kneiskern* (Paine, Cat. Pl. Oneida Co. 102. 1865). Watson, Lewis county, (59th Rep't Regents, 1846). The report by *Peck* is the only one which is without question.

RHODORA L. Sp. Pl. ed. 2, 561. 1762

Rhodora canadensis L., l.c.

Rhodora

Rhododendron Rhodora Gmel. Syst. 694. 1791

Rhodora congesta Moench, Meth. 68. 1794

Rhododendron canadense B. S. P. Prel. Cat. N. Y. 33. 1888

Azalea canadensis Kuntze, Rev. Gen. Pl. 386. 1891

In bogs and on wet mountain slopes. Rare in the eastern part of the State.

Sam's Point, Ulster county, *C. F. Austin* (Torr. Club Bul. 2: 14. 1871; 10: 105. 1883 by *Britton*; *Peck*, 42d Rep't N. Y. State Mus. 36. 1889). Lake Minnewaska, Shawangunk mountains, *Peck* (51st

Rep't N. Y. State Mus. 297. 1898). Thirteenth pond, Johnsburg, Warren county, *Mrs. I. B. Sampson* (N. Y. State Mus. Bul. 2: 26. 1887). Reported from West Turin, Lewis county by *F. B. Hough* in 1846.

RHODODENDRON L. Sp. Pl. 392. 1753

1 *Rhododendron lapponicum* (L.) Wahl. Fl. Suec. 249. 1824

Lapland rose bay

Azalea lapponica L. Sp. Pl. 151. 1753

Summits of the highest mountains of the Adirondacks.

Mount Marcy and Mount McIntyre, *Torrey* (Fl. N. Y. 1: 438. 1843). Mount Marcy, *Kneiskern* (in Sartwell herbarium). Summits of Mount McIntyre and Mount Wright, *Peck* (N. Y. State Mus. Bul. 28: 113. 1899.)

2 *Rhododendron maximum* L. Sp. Pl. 392. 1753

Great laurel, rose bay

In low woods and along streams. Rare or local across the State northward. Locally more abundant southward, but unknown on Staten Island or Long Island.

Common about Barryville and other places in Sullivan county, with petals spotted with green (forma *viridimaculatum* Peck), *Peck* (47th Rep't N. Y. State Mus. 31. 1894). Reported from Staten Island in *Torrey's Catalogue* (1819), and from near Babylon, Long Island and highlands of the Hudson and Oriskany swamp, Oneida county, *Kneiskern* (*Torrey*, Fl. N. Y. 1: 438. 1843). Extinct in Oriskany swamp, and not now known to occur upon either Long Island or Staten Island.

Mohawk valley, Schenectady, *Pearson*; west of Oriskany, *Vasey*; Oriskany valley, a mile or two south of Clark's Mills; Unadilla valley, four miles south of Bridgewater, *Gray*; Italy Hill, Yates county, *Sartwell* (Paine, Cat. Pl. Oneida Co. 103. 1865). Clinton, Oneida county, *A. D. Gridley* (N. Y. Evening Post Nov. 1875; and Torr. Club Bul. 6: 52. 1875). Reported from Leyden, Lewis county, *F. B. Hough*, 1846.

New Russia, Essex county, *J. W. Condgon* (Torr. Club Bul. 6: 56. 1875). Chapel pond, Essex county, *O. S. Phelps* (27th Rep't N. Y. State Mus. 112. 1877). Union Mills, Fulton county, *Annabel Martin*. Machias, Wyoming county, *G. W. Clinton*, and West Hurley, Ulster county, *Peck* (28th Rep't 83. 1876). White's Corners, Erie county, *D. F. Day* (22nd Rep't N. Y. State Mus. 103. 1869). Carmalt, *F. E. Fenno*; Unadilla Forks, *Brown*; Cincinnati, *L. H. Dewey* (Clute, Fl. Upper Susquehanna 70. 1898). Webster, Monroe county, *James H. Brown* (Proc. Rochester Acad. 3: 83. 1896). South Apalachin, Tioga county, *Fenno*. Michigan Hollow swamp, Danby, *Dudley* (Cayuga Flora 59. 1886).

KALMIA L. Sp. Pl. 391. 1753*Chamaedaphne* [Catesby] Kuntze, Rev. Gen. Pl. 388. 18911 **Kalmia angustifolia** L. Sp. Pl. 391. 1753

Sheep laurel, lambkill, wicky

C. angustifolia Kuntze, l.c.

In moist soil, in swamps or boggy depressions, or in sandy barrens or on hillsides. Frequent or common across the eastern and northern parts of the State and on Long Island and Staten Island, and along the Ontario lowlands. Infrequent or rare on the limestone hills and uplands across the middle of the State, and there chiefly confined to bogs.

2 **Kalmia latifolia** L. Sp. Pl. 391. 1753.

American or mountain laurel, calico bush

C. latifolia Kuntze, l.c.

In woods, preferring sandy or rocky soil, sometimes in swamps or boggy depressions. Frequent or locally common on Long Island and Staten Island and northward throughout the Catskills. Rare or local farther northward and westward.

Northward the species reaches in its scattered distribution to Saratoga, *Phelps*; Clarksville, Albany county, *House*; New London, Oneida county, *House*; near Sodus, Wayne county, *Hankenson*; Oriskany, *Kneiskern*, formerly; westward to Olean, Cattaraugus county, *Clinton*.

For variations in the shape of corolla, color of flowers and shape of leaves, see Rehder (*Rhodora* 12: 1-3. 1910).

3 **Kalmia polifolia** Wang. Beob. Ges. Nat. Freunde Berlin 2²: 130. 1788

Pale or swamp laurel

K. glauca Ait. Hort. Kew, 2: 64. pl. 8. 1811*C. glauca* Kuntze, l.c.

In bogs and on mountain summits. Common across the Adirondack region and the northern counties. Less frequent or rare southward to Dutchess county, the Catskill mountains and westward, on the Ontario lowlands.

CASSIOPE D. Don, Edinb. Phil. Journ. 17: 157. 1834*Harrimanella* Coville, Proc. Wash. Acad. Sci. 3: 570. 1901**Cassiope hypnoides** (L.) D. Don, l.c.

Moss plant

Andromeda hypnoides L. Sp. Pl. 393. 1753*Harrimanella hypnoides* Coville, l.c. 575

Sometimes credited to the alpine summit of Mount Marcy, where it was supposed to have been collected many years ago by Doctor

Parry, but Parry's herbarium apparently does not confirm this, nor has the plant been since collected there.

A note in Ecology (1: 226. 1920), cites Doctor J. V. Haberer as stating that he collected this species on Panther mountain, July, 1879, and that the specimen is in the herbarium of Hamilton college. Panther mountain here referred to is supposed to be Panther peak, the highest point of Santanoni mountain (4448 feet altitude), Essex county.

CHAMAEDAPHNE Moench, Meth. 457. 1794

Hydragonium [Sieg. Fl. Petr. 1736] Kuntze, Rev. Gen. Pl. 390. 1891
Cassandra D. Don, Edinb. New Phil. Journ. 17: 158. 1834

Chamaedaphne calyculata (L.) Moench, l.c.

Leatherleaf, cassandra

Hydragonium calyculatum Kuntze, l.c.

Andromeda calyculata L. Sp. Pl. 394. 1753

Cassandra calyculata D. Don, l.c.

Lyonia calyculata Reich. Fl. Ex. 1: 414. 1827

In bogs and swamps. Common across the State northward, and frequent on Long Island. Not reported from Staten Island and rare in the Chemung valley. Common in the swamps and bogs of the Ontario lowlands. Elsewhere infrequent across the State westward.

EUBOTRYS Nutt. Trans. Am. Phil. Soc. (II) 8: 269. 1843

Eubotrys racemosa (L.) Nutt. l.c. Swamp eubotrys

Andromeda racemosa L. Sp. Pl. 394. 1753

Zenobia racemosa DC. Prodr. 7: 598. 1839

Lyonia racemosa D. Don, Edinb. New Phil. Journ. 17: 159. 1834

Leucothoe racemosa A. Gray, Man. ed. 2, 252. 1856

In swamps and moist thickets. Frequent on Long Island and Staten Island. Less common northward in Westchester county. Skunnemunk mountain, Peck (39th Rep't N. Y. State Mus. 55. 1886).

ANDROMEDA L. Sp. Pl. 393. 1753

Andromeda glaucophylla Link, Enum. Hort. Berol. 1: 394. 1821

Wild rosemary, marsh holly rose, moorwort

A. Polifolia, of N. Y. Reports, mainly; not L.

A. glauca rosmarinifolia Pursh, Fl. Am. Sept. 291. 1814

A. canescens Small, N. Am. Fl. 29: 61. 1914

In bogs, swamps, marshy shores, and on alpine or subalpine summits. Common throughout the Adirondack region, and in most of the cold bogs southward to Dutchess, Putnam, Orange and Delaware counties, westward to Wyoming and Genesee counties.

The typical *A. Polifolia* is said to possess leaves glabrous and generally whitened beneath with a varnish-like coat, later often green. No such plant is found in this State, although Knight (*Rhodora* 5: 71. 1903), reports a specimen of it from this State in the Thurber herbarium, collected by Durand. All of our material as represented in the state herbarium, has leaves canescent beneath and belongs to *A. glaucophylla*. Doctor Small (*N. Am. Fl.* 29: 61. 1914) regards this as a new species and names it *A. canescens*, while he reduces the name *glaucophylla* Link, to a synonym of *A. Polifolia* L., obviously an incorrect disposition of the name, since *A. glaucophylla* Link, is based upon *A. Polifolia* var. *latifolia* Aiton, and is the same as *A. Poliofolia* β . Pursh, our common form in New York State.

Torrey (*Am. Jour. Sci.* 2: 62. 1822) describes a form with linear, revolute leaves as *A. Polifolia* var. *rosmarinifolia*. Pursh gives Albany as the type locality for his variety "*rosmarinifolia*," and the rosemary, answering to his description, is still to be found in the swamps near there, and as is often the case with material from outside of and south of the Adirondacks, the leaves are more revolute and less whitened beneath.

NEOPIERIS Britton; Britton & Brown, *Illus. Fl. ed. 2*, 2: 690. 1913

Neopieris mariana (L.) Britton, l.c.

Stagger bush

Andromeda mariana L. *Sp. Pl.* 393. 1753

Pieris mariana B. & H. *Gen. Pl.* 2: 588. 1876

Lyonia mariana D. Don, *Edinb. New Phil. Journ.* 17: 159. 1834

Leucothoe mariana DC. *Prodr.* 7: 602. 1839

In sandy soil. Common on Long Island and Staten Island and in Westchester county along or near the Long Island Sound.

XOLISMA Raf. *Am. Mo. Mag.* 4: 193. 1819

Lyonia Nutt. *Gen.* 1: 266. 1818. Not Ell. 1817, nor Raf. 1808

Arsenococcus Small; in Small & Carter, *Fl. Lancaster Co.* 218. 1913

Xolisma ligustrina (L.) Britton, *Torr. Club Mem.* 4: 135. 1894

Wild privet, privet andromeda

Vaccinium ligustrinum L. *Sp. Pl.* 351. 1753

Andromeda racemosa Lam. *Encycl.* 1: 158. 1783. Not L. 1753

A. paniculata Ait. *Hort. Kew.* 2: 68. 1799. Not L.

Lyonia paniculata Nutt., l.c.

L. ligustrina DC. *Prodr.* 7: 599. 1839

In swamps and wet soil, sometimes in rather dry sandy or rocky places. Rensselaer and Saratoga counties westward to Oneida county, and southward. Not reported from the Ontario lowlands, but southward extending locally westward to Lake Erie. Increasingly common southward in the State.

EPIGAEA L. Sp. Pl. 395. 1753

Epigaea repens L., l.c.

Trailing arbutus, Mayflower

In sandy or rocky woods. Locally common across the State except in regions of limestone soil, and rare in woods of rich humus. In the Adirondacks rarely found above 2000 feet altitude. Formerly more abundant everywhere in the State.

GAULTHERIA Kalm; L. Sp. Pl. 395. 1753

Brossaea [Plum.] L. Gen. Ed. 1. 366. 1737 — Sp. Pl. 1190. 1753

Gaultheria procumbens L., l.c.

Creeping or spicy wintergreen, checkerberry

B. procumbens, Kuntze Rev. Gen. Pl. 387. 1891

In woods, especially under evergreen trees, and often in light or sterile soil in open places. Frequent or common in most sections of the State, but usually absent from regions of limestone, and from sections where the soil is clayey.

UVA-URSI Mill. Gard. Dict. abr. ed. 4. 1754

Arctostaphylos Adans. Fam. Pl. 2: 165. 1763

Mairrania Neck. Elem. 1: 219. 1790

Xerobotrys Nutt. Trans. Am. Phil. Soc. (II) 8: 267. 1843

Uva-Ursi *Uva-Ursi* (L.) Britton; in Britton & Brown, Illus. Fl. ed. 2, 2: 693. 1913

Red bearberry, kinnikinic

Arbutus Uva-Ursi L. Sp. Pl. 395. 1753

Uva-Ursi procumbens Moench, Meth. 470. 1794

Arctostaphylos uva-ursi Spreng. Syst. 2: 287. 1825

In dry sandy or rocky soil. Locally frequent or common across the northern part of the State. Outside of the mountains local or rare southward to the Catskills, Long Island, Staten Island, westward to Tompkins, Genesee and Niagara counties. Apparently much less common now than formerly, as in many places outside of the mountains, it shows undoubted signs of dying out.

Most of the New York collections of this species belong to the so-called var. *coactilis* Fernald & McBride (*Rhodora* 16: 212. 1914) "branchlets canescent-tomentulose, not viscid, the minute tomentum persistent." Occasionally a specimen has the branchlets quite glabrous (Lake Bonaparte, *House*), and European specimens of the var. *coactilis* have been seen.

CALLUNA Salisb. Trans. Linn. Soc. 6: 317. 1802

Calluna vulgaris (L.) Salisb., l.c.

European heather

Erica vulgaris L. Sp. Pl. 352. 1753

Calluna Erica DC. Fl. Franc. 3: 680. 1805

Common and native in nearly all of the northern and central portions of Europe, and naturalized in portions of New England.

Near Grafton, Rensselaer county, *Dr Rudolf Ruedeman*, Sept. 5, 1921 (state herbarium); growing in a clump about the base of dead spruce trees which had been imported several years earlier from northern Germany.

J. A. Paine (Cat. Pl. Oneida Co. 101. 1865), states that "plants of this species from Tewksbury, Mass., have been stationed on the sand plains of Rome, and in the northern part of Herkimer county, on a barren knoll in the beaver meadow beyond Bald rock, north of the Eight lakes, where they ought to flourish and multiply." Some search has been made in both localities mentioned by Paine, without finding the plants.

Family 5 **VACCINIACEAE** Lindl. Veg. Kingd. 757. 1847

Huckleberry family

GAYLUSSACIA H.B.K. Nov. Gen. 3: 275. *pl.* 257. 1819

? *Adnaria* Raf. Fl. Ludov. 56. 1817 — *Adnaria* Kuntze, Rev. Gen. Pl. 382. 1891

Decamerium Nutt. Trans. Am. Phil. Soc. II. 8: 259. 1843

1 **Gaylussacia frondosa** (L.) T. & G.; Torr. Fl. N. Y. 1: 449.
1843 Blue huckleberry, blue tangle

Vaccinium frondosum L. Sp. Pl. 351. 1753

V. venustum Ait. Hort. Kew. 2: 11. 1789

V. glaucum Michx. Fl. Bor. Am. 1: 231. 1803

A. frondosa Kuntze, l.c.

In moist woods and thickets. Frequent or locally common on Long Island and Staten Island, especially in the pine-barrens of the coastal plain. Locally in Westchester county, and rare northward to the Hudson highlands, Dutchess and Albany counties. Reported from Newark, Wayne county (*Hankenson*.)

2 **Gaylussacia baccata** (Wang.) K. Koch, Dendrol. 2¹: 93. 1872
Black or high bush huckleberry

Andromeda baccata Wang. Beitr. Am. 3: 30. *pl.* 39. *f.* 69. 1787

Vaccinium resinsum Ait. Hort. Kew. 2: 12. 1789

V. parviflorum Andr. Bot. Repos. *pl.* 125. 1800

G. resinosa T. & G.; Torrey, l.c.

A. resinosa Kuntze, l.c. 383

In woods and thickets, preferring sandy or rocky soil. Frequent or common in most sections of the State below 3000 feet altitude in the Adirondacks.

Pursh (Fl. Am. Sept. 286. 1814) distinguished 3 forms or varieties, viz.: **viridescens**, **rubescens**, and **lutescens**, based mainly upon the variable color of the corolla of this species.

More recently 2 forms have been described, based upon characters of the fruit, viz.: forma **glaucocarpa** (Robinson) Mackenzie, and forma **leucocarpa** (Porter) Fernald. Both have been found in this State.

- 3 **Gaylussacia dumosa** (Andr.) T. & G.; Gray, Man. 259. 1848
Gopherberry, dwarf or bush huckleberry

Vaccinium dumosum Andr. Bot. Repos. 2: pl. 112. 1800
V. hirtellum Ait. f. Hort. Kew. ed. 2, 2: 357. 1811
G. dumosa hirtella A. Gray, Man. 259. 1848
G. hirtella T. & G.; Torrey, Fl. N. Y. 1: 448. 1843
Decamerium dumosum & *hirtellum* Nutt., l.c. 260
G. dumosa var. *Bigeloviana* Fernald, Rhodora 13: 99. 1911
A. dumosa Kuntze, l.c. 382

In sandy or rocky soil, usually in swampy or boggy depressions. Frequent on eastern Long Island. Less common or rare on western Long Island and Staten Island and in Westchester county.

VITIS-IDAEA (Tourn.) Hill. Brit. Herb. 516. 1756

- Vitis-Idaea** *Vitis-Idaea* (L.) Britton, N. Y. Bot. Gard. Bul. 3: 179. 1903
Cowberry, mountain cranberry

Vaccinium vitis-idaea L. Sp. Pl. 351. 1753
V. vitis-idaea var. *minus* Lodd. Bot. Cab. pl. 1023. 1825
Vitis-idaea punctata Moench, Meth. 47. 1794

According to Britton & Brown (Illus. Fl. ed. 2, 2: 697. 1913), ascends to 5300 feet in the Adirondacks. It has not been found on Mount Marcy by Doctor Peck, or by more recent collectors. There are no specimens of this in the state herbarium from New York.

POLYCODIUM Raf. Am. Mo. Mag. 2: 266. 1818

Picrococcus Nutt. Trans. Am. Phil. Soc. (II) 8: 262. 1843

- 1 **Polycodium stamineum** (L.) Greene, Pittonia 3: 324. 1898
Deerberry, buckberry, squawberry

Vaccinium stamineum L. Sp. Pl. 350. 1753
Picrococcus stamineus Nutt., l.c.

In dry, sandy or rocky woodlands, thickets or open places. Locally common across the State from Rensselaer and Saratoga counties westward to Lewis and Jefferson counties and Lake Erie. Increasingly common southward, especially on Long Island.

- 2 **Polycodium candicans** (Mohr.) Small, Fl. SE. U.S. 658. 1903
Pale-leaved deerberry

Vaccinium melanocarpum candicans Mohr, Contr. U. S. Nat. Herb. 6: 658. 1901

In rocky woodlands and openings. Infrequent from Albany and Rensselaer county southward.

Closely related to *P. stamineum*, and by some authorities united with it. It differs chiefly by its paler leaves which are glaucous-white beneath with a dense fine white indument, and the mature fruit more glaucous.

VACCINIUM L. Sp. Pl. 349. 1753

(revised by Paul M. Standley)

1 **Vaccinium uliginosum** L. Sp. Pl. 350. 1753

Great or bog bilberry, bog whortleberry

V. gaultherioides Bigel. New Eng. Med. Jour. 5: 335. 1816

Alpine summits of the Adirondack mountains.

Essex county, *Torrey* (Fl. N. Y. 1: 444. 1843). Summit of Mount Marcy, *Kneiskern* (Herb. Sartwell). Mount Marcy, *Peck* (52d Rep't N. Y. State Mus. 667. 1899). Indian Pass and open summit of Mount McIntyre and Mount Wright, *Peck* (N. Y. State Mus. Bul. 28: 111. 1899). Our specimens all belong to the var. *alpinum* Bigelow, Fl. Bost. ed. 153. 1824 (Fernald, in *Rhodora* 25: 25. 1923).

2 **Vaccinium caespitosum** Michx. Fl. Bor. Am. 1: 234. 1803

Dwarf bilberry

Alpine summits of the higher Adirondacks.

Summit of Whiteface, *Peck* (22d Rep't N. Y. State Mus. 53. 1869). Summit of Mount Marcy, *Peck* (25th Rep't 107. 1873). (52d Rep't 667. 1899).

3 **Vaccinium corymbosum** L. Sp. Pl. 350. 1753

High bush or tall blueberry

V. amocnum Ait. Hort. Kew. 2: 12. 1789

In swamps, thickets and woods, often in open or recently cleared sandy or swampy soil. Frequent or common in most sections of the State. Rare above 3000 feet altitude in the Adirondacks.

An extremely variable species, composed of numerous closely related and perhaps intergrading forms, differing from each other chiefly in the shape, texture, color and indument of the foliage and in the size of plant. A more complete correlation and knowledge of the characters of the flowers, fruit and foliage of these variations may lead to the recognition of some of them as good species. For the present they may be briefly indicated as tentative forms.

Vaccinium atlanticum Bicknell, Torr. Club Bul. 41: 422. 1914. At Ronkonkoma, Long Island (*Bicknell*). Type from Nantucket Island. Very closely related to *V. corymbosum*, and apparently only a low form of that species.

Vaccinium simulatum Small, Fl. SE. U. S. 896. 1903. New York specimens from Staten Island, West Point, etc., referred to this, have been re-determined by Bicknell as his *V. atlanticum*, and do not appear to differ essentially from *V. corymbosum*.

Vaccinium vicinum Bicknell, Torr. Club Bul. 41: 425. 1914. Long Island (Bicknell). This appears to be a pubescent extreme of *V. corymbosum*.

Vaccinium virgatum Ait. Hort. Kew. 2: 12. 1789. This has been reported northward to Staten Island, but the specimens so referred have been re-determined as *V. atlanticum*, and hence represent a low form of *V. corymbosum*. Typical *V. virgatum* which occurs in the southern states has not been definitely recorded in New York.

4 *Vaccinium caesariense* Mackenzie, Torrey 10: 230. 1910 New Jersey blueberry

V. corymbosum var. *glabrum* A. Gray, Man. ed. 5, 292. 1867

In bogs on Long Island. Rare.

This has been referred to *V. australe* Small, a southern species with larger flowers, and which is perhaps the same as *V. pallidum* Ait.

5 *Vaccinium canadense* Kalm.; Richardson, in Frankl. Jour. 736. 1823 Canada blueberry

In moist places, sometimes in rather dry stony or sandy soil on open mountain summits, etc. Frequent or common in the Adirondacks and throughout most of northern and central New York. Less common southward to the Catskills in Ulster, Delaware, Greene and Sullivan counties and westward to Lake Erie.

6 *Vaccinium angustifolium* Ait. Hort. Kew. 2: 11. 1789 Dwarf, early or low bush blueberry

V. pennsylvanicum Lam. Encycl. 1: 74. 1783. Not Mill. 1768

In dry, rocky or sandy soil. Frequent or common in most sections of the State northward, especially in the Adirondack region, and the Catskill mountains. Less common southward to Long Island and westward to Lake Erie.

Leaves narrowly-lanceolate, 7-20 mm long, 3-7 mm wide, in the typical form, merging into the commoner, broader-leaved and nearly glabrous form, which is the typical *V. pennsylvanicum* Lam., and which may be designated as var. *laevifolia*, House, N. Y. State Mus. Bul. 243-244: 61. 1923.

Another extreme of the species has the leaves and twigs more or less pubescent, the leaf-blades evidently lustrous. It is var. *myrtilloides* (Michx.) House, l.c. (*V. myrtilloides* Michx. Fl. Bor. Am. 1: 234. 1803. *V. pennsylvanicum* var. *myrtilloides* Fernald, Rhodora 10: 148. 1908), and while chiefly more northern in distribution has been collected by Peck at Islip, Long Island.

- 7 *Vaccinium nigrum* (Wood) Britton, Torr. Club Mem. 5: 252.
1894

V. pennsylvanicum var. *nigrum* Wood, Bot. & Flor. 199. 1873

Leaves lustrous, coriaceous and glabrous as in typical *V. angustifolium*, but relatively broader and larger; fruit large, black without bloom, sweet and juicy.

Local across the state northward.

Day, *Peck*. Le Roy, *Baxter*. Caroga, *Peck*.

- 8 *Vaccinium Brittonii* Porter; Bicknell, Torr. Club Bul. 41: 420.
1914 Britton's blueberry

V. nigrum Britton, Man. 710. 1901 (as to descr.).

Type from Nantucket Island. Long Island and LaRue Island St Lawrence river (according to *Bicknell*). Minnewaska, *Peck*. Black mountain, Washington county, *Burnham*. Bloomingdale Station, Franklin county, *Peck*.

Vaccinium Dobbini Burnham (Am. Bot. 12: 9. 1907), from Washington county, is apparently a hybrid between *V. Brittonii* and *V. nigrum*. The fruit is black, rather than dark-blue as described, and the leaves are not pale beneath as is usually the case in *V. vacillans*. The leaves are apparently, in the dried specimens, little if at all lustrous.

- 8 *Vaccinium vacillans* [Kalm]; Torr. Fl. N. Y. 1: 444. 1843
Common low blueberry

In dry soil. Frequent or common from Lake Champlain to the St Lawrence river, and in the Adirondacks up to 3000 feet altitude. Common southward in the State to Long Island, but less frequent in the western counties of the State.

Var. *crinitum* Fernald (*Rhodora* 13: 236. 1911), represents the pubescent extreme of this species.

- 9 *Vaccinium atrococcum* (A. Gray) Heller, Torr. Club. Bul. 21: 24. 1894 Black blueberry

V. disomorphum Bigel. Fl. Bost. ed. 2, 151. 1824. Not Michx. 1803

V. corymbosum var. *atrococcum* Gray, Man. Ed. 2, 250. 1856

In swamps and wet woods. Frequent or common across the State northward, and in central New York. Locally common southward to Long Island and Staten Island. Less frequent in the western counties, and in the northern Adirondacks.

CHIOGENES Salisb. Trans. Hort. Soc. Lond. 2: 94. 1814.

Glyciphylla Raf. Am. Mo. Mag. 3: 192. 1819

Lasierpa Torrey, Geol. Rep't N. Y. 152. 1839

Chiogenes hispidula (L.) T. & G.; Torr. Fl. N. Y. 1: 450. 1843
 Creeping snowberry

Vaccinium hispidulum L. Sp. 352. 1753
Chiogenes serpyllifolia Salisb., l.c.
Oxycoccus hispidulus Pers. Syn. 1: 419. 1805
Gaultheria serpyllifolia Pursh, Fl. Am. Sept. pl. 13. 283. 1814
Glyciphylla hispidula Raf., l.c.
Lasierpa hispidula Torrey, Geol. Rep. N. Y. 152. 1839

In cold wet woods and bogs. Common throughout the Adirondacks and the northern counties of the State, southward to the Catskills and central New York. Less common, local or rare westward to Wayne, Genesee and Erie counties, and southward to the higher hills of Tompkins, Cortland, Chenango and Sullivan counties, Dutchess county and reported from a single station on Staten Island.

OXYCOCCUS (Tourn.) Hill, Brit. Herb. 324. 1756

Schollera Roth, Tent. Fl. Germ. 1: 165, 170. 1788
Oxycoca Raf. Med. Fl. 2: 49. 1830

1 **Oxycoccus Oxycoccus** (L.) MacM. Torr. Club Bul. 19: 15. 1892
 Small or European cranberry

Vaccinium Oxycoccus L. Sp. Pl. 351. 1753
V. pennsylvanicum Marsh. Arb. Am. 159. 1785. Not Mill.
V. Oxycoccus var. *ovalifolium* Michx. Fl. Bor. Am. 1: 228. 1803
V. palustris Pers. Syn. 1: 419. 1805
V. Oxycoccus var. *intermedium* Gray, Syn. Fl. 2²: 396. 1886
O. vulgaris Pursh, Fl. Am. Sept. 263. 1814

In cold bogs and mountain summits. Common in the Adirondack mountains and the northern counties of the State and in the cold bogs of central New York. Less frequent southward to the Catskills and the Hudson river valley, westward to Lake Erie.

2 **Oxycoccus macrocarpus** (Ait.) Pursh, Fl. Am. Sept. 263. 1814
 Large or American cranberry

V. hispidulum Marsh. Arb. Am. 159. 1785. Not L. 1753
V. macrocarpon Ait. Hort. Kew. 2: 13. pl. 7. 1789
V. Oxycoccus var. *oblongifolium* Michx. Fl. Bor. Am. 1: 228. 1803
O. palustris var. *macrocarpus* Pers. Syn. 1: 419. 1805

In bogs and marshes. Common or frequent on Long Island and Staten Island, and northward across the State. Less frequent elsewhere across the State, and rare in the western counties.

Family 6 **DIAPENSIACEAE** Link, Handb. 1: 595. 1829

Diapensia family

DIAPENSIA L. Sp. Pl. 141. 1753

Diapensia lapponica L., l.c.

Diapensia

Frequent only on the summits of Mount Marcy and Mount McIntyre in the Adirondack mountains.

Family 7 **PRIMULACEAE** Vent. Tabl. 2: 285. 1799

Primrose family

PRIMULA L. Sp. Pl. 142. 1753**Primula mistassinica** Michx. Fl. Bor. Am. 1: 124. 1803

Mistassini or dwarf Canadian primrose

On wet banks and cliffs. Rare.

Yates county, *Sartwell* (Torrey, Fl. N. Y. 2: 8. 1843); the specimen in the Sartwell herbarium is labelled "Hammondsport." Annsville, Oneida county, *Vasey* (Sartwell Herb.) Cliffs of Fish creek, from Taberg northward (town of Annsville), and deep ravine of Hammondsport, head of Crooked lake, *Sartwell* (Paine, Cat. Pl. Oneida Co. 105. 1865). Taberg, *Peck* (46th Rep't N. Y. State Mus. 48. 1893). Portage, *G. W. Clinton* (24th Rep't N. Y. State Mus. 101. 1872). Ravines at head of Crooked lake and Cayuga lake, and Fall creek, gorge, Ithaca, *Prentiss* (Torr. Club Bul. 4: 15. 1873; 28th Rep't N. Y. State Mus. 83. 1876). Cliffs below the falls of the Salmon river, Orwell, Oswego county *W. W. Rowlee* (Torr. Club Bul. 20; 69. 1893).

HOTTONIA Boerh.; L. Sp. Pl. 145. 1753**Hottonia inflata** Ell. Bot. S. C. & Ga. 1: 231. 1817

American featherfoil

H. palustris Pursh, Eaton, etc., not L.

In shallow stagnant pools. Rare.

Several places in Westchester county, *Mead*; near Dexter, Jefferson county, *Vasey* (Torrey in Torr. Club Bul. 2: 22. 1871). Two or three miles west of Dexter, *Vasey* (Paine, Cat. Pl. Oneida county, 105. 1865). Northville, Suffolk county, *H. W. Young* (Torr. Club Bul. 3: 51. 1872). Pond near Mariner's Harbor, Staten Island, *Hollick & Britton* (Torr. Club Bul. 6: 178. 1877).

SAMOLUS (Tourn.) L. Sp. Pl. 171. 1753**Samolus parviflorus** Raf. Am. Mo. Mag. 2: 176. Jan. 1818

Water pimpernel, brookweed

S. floribundus H. B. K. Nov. Gen. & Sp. 2: 224. Febr. 1818*S. valerandi* var. *americanus* Gray, Man. ed. 2, 274. 1856

In swamps and brooks or often in low wet meadows. Frequent or common in most sections of the State, especially along the coast and along streams, rivers, lakes and ponds northward and westward in the State.

LYSIMACHIA (Tourn.) L. Sp. Pl. 146. 1753

Section *Lysimastrum*

- 1 ***Lysimachia vulgaris*** L., l.c. Golden or yellow loosestrife

In fields and along roadsides, sometimes spreading into woods and thickets. Common about Herkimer and northward in the valley of the West Canada creek, in Herkimer county. Elsewhere local or rare. Naturalized from Europe.

- 2 ***Lysimachia punctata*** L., l.c. 147 Spotted loosestrife

In waste places. Infrequent or rare. Adventive or sparingly naturalized from Europe. Randolph, Cattaraugus county, (N. Y. State Mus. Bul. 157: 41. 1912).

- 3 ***Lysimachia quadrifolia*** L., l.c.

Crosswort, whorled loosestrife

L. punctata Walt. Fl. Car. 92. 1788

L. hirsuta Michx. Fl. Bor. Am. 1: 127. 1803

In thickets, wet meadows and marshes. Common throughout the State, except at the higher altitudes of the Adirondack mountains. Variable in shape of leaves and degree of pubescence. Forma ***variegata*** Peck (47th Rep't N. Y. State Mus. 31. 1894, as a variety), has the petals tipped or margined with orange.

- 4 ***Lysimachia producta*** (A. Gray) Fernald, Rhodora 1: 134. 1899

L. stricta var. *producta* Gray, Man. ed. 2, 272. 1856

L. racemosa Michx. Fl. Bor. Am. 1: 128. 1803, in part

L. foliosa Small, Fl. SE. U. S. 903. 1903

In swamps and along roadsides, southern part of the State, and locally northward. Rare. Sometimes regarded as a hybrid between *L. quadrifolia* and *terrestris*.

On Long Island and Staten Island and up the Hudson valley to Putnam county, *Taylor* (Fl. Vic. N. Y. 408. 1915. 1915). Narrowsburg, Sullivan county, *Peck*, and Glens Falls and Watertown, *C. L. Williams* (53d Rep't N. Y. State Mus. 836. 1900). Sylvan Beach, Oneida county; Elizabethtown, Essex county, *Peck*.

- 5 ***Lysimachia terrestris*** (L.) B. S. P. Prel. Cat. N. Y. 34. 1888

Bulb-bearing loosestrife

Viscum terrestre L. Sp. Pl. 1023. 1753

L. stricta Ait. Hort. Kew. 1: 199. 1789

L. racemosa Lam. Encycl. 3: 571. 1789

L. bulbifera Curt. Bot. Mag. pl. 104.

L. Loomisii Torrey in Croom, Cat. Pl. New Bern 46. 1833

In swamps, low meadows and moist open woods and thickets. Common throughout the State. Variable in leaf-form, see (Peck, 47th Rep't N. Y. State Mus. 31-32. 1894).

Lysimachia terrestris $\times$ **thrysiflora** Fernald & Wiegand, *Rhodora* 12: 140. 1910

A hybrid, collected by *Miss E. C. Webster*, at Canandaigua, June 24, 1911 (state herbarium).

Section Numularia

Numularia Gilib. Fl. Lithuan. 1: 29. 1781

6 **Lysimachia Nummularia** L. Sp. Pl. 148. 1753

Moneywort, creeping loosestrife

N. repens Gilib., l.c.

N. sylvatica S. F. Gray, Nat. Arr. Br. Pl. 2: 300. 1821

In moist places. Common in most sections of the State. Naturalized from Europe.

Section Naumburgia

Naumburgia Moench, Meth. Suppl. 23. 1802

7 **Lysimachia thrysiflora** L. Sp. Pl. 147. 1753

Tufted loosestrife

N. guttata Moench, l.c.

L. capitata Pursh, Fl. Am. Sept. 135. 1814

L. capitellata Raf. Med. Repos. II. 5: 354. 1808

N. thrysiflora Duby, in DC. Prodr. 8: 60. 1844

Nummularia thrysiflora Kuntze, Rev. Gen. Pl. 398. 1891

In swamps, bogs, and on marshy shores and in wet places. Frequent or common in most sections of the State.

STEIRONEMA Raf. Ann. Gen. Phys. 7: 192. 1820

Nummularia (Gronov.) Kuntze, Rev. Gen. Pl. 398. 1891

1 **Steironema ciliatum** (L.) Raf., l.c. Fringed loosestrife

Lysimachia ciliata L. Sp. Pl. 147. 1753

Nummularia ciliata Kuntze, l.c.

In moist thickets, woods and on shores. Common throughout most sections of the State, except the pine-barrens of Long Island, where it is rare or absent.

2 **Steironema lanceolatum** (Walt.) Gray, Proc. Am. Acad. 12: 63. 1876
Lance-leaved loosestrife

Lysimachia lanceolata Walt. Fl. Car. 92. 1788

L. hybrida Michx. Fl. Bor. Am. 1: 126. 1803

L. heterophylla Nutt. Gen. 1: 121. 1818. Not Michx.

S. hybridum and *S. heterophyllum* Raf., l.c. 183

Nummularia lanceolata Kuntze, l.c.

In moist soil. Infrequent or rare.

Occasional on Long Island and Staten Island, northward to Port Jervis, *Peck*, Sylvan Beach, Oneida county, *Peck*, and westward. Not reported from the upper Hudson valley nor from the Adirondack region.

- 3 **Steironema quadriflorum** (Sims.) Hitchc. Trans. St Louis Acad.
 5: 506. 1891 Prairie moneywort, linear-leaved loosestrife
Lysimachia quadriflora Sims, Bot. Mag. pl. 660. 1803
L. longifolia Pursh, Fl. Am. Sept. 135. 1814
L. revoluta Nutt. Gen. 1: 122. 1818
S. revoluta and *S. lanceolatum* Raf., l.c. 193

On calcareous rocks. Western New York. Rare.

Niagara Falls, *Eddy*, *Cooper*, *Sartwell* (Torrey, Fl. N. Y. 2: 10. 1843); *Eaton*, *Gray* (state herbarium).

TRIENTALIS L. Sp. Pl. 344. 1753

Alsinianthemum Thal.; Greene, Man. Bot. San Franc. Bay 238. 1894

- 1 **Trientalis borealis** Raf. Med. Repos. II. 5: 354. 1808
 Starflower, chickweed wintergreen

T. europaea Michx. Fl. Bor. Am. 1: 220. 1803. Not L. 1753
T. americana Pursh, Fl. Am. Sept. 254. 1814
T. europaea var. *angustifolia* Torr. Fl. U. S. 1: 383. 1824

In damp woods, thickets and mossy swamps. Common throughout most sections of the State, although rare or absent in certain sections of Long Island.

Var. **tenuifolia** House, var. nov.

Leaves 1-3 inches long, $\frac{1}{8}$ to $\frac{1}{4}$ inch wide, very thin in texture and long pointed or tapering at each end. Bergen swamp, Genesee county.

Trientalis latifolia Hook., somewhat provisionally reported from the summit of Mount McIntyre (N. Y. State Mus. Bul. 243-244: 26. 1923), is probably not the *T. latifolia*, of western America. Additional collections of it made there in 1923 indicate that the leaves while strongly reticulate-veined, are only occasionally blunt-pointed like the single collection made there by *Peck*, and which seemed to correspond rather closely to the western species.

ANAGALLIS (Tourn.) L. Sp. Pl. 148. 1753

Anagallis arvensis L., l.c. Red or scarlet pimpernel

In waste places. Infrequent across the State south of the Adirondack region. Naturalized from Europe.

DODECATHEON L. Sp. Pl. 144. 1753

Meadia (Tourn.) Mill. Gard. Dict. abr. ed. 4. 1754

Dodecatheon Media L., l.c. Shooting star, American cowslip
Meadia Dodecatheon Mill. Gard. Dict. ed. 8. 1768

The only record for this State rests upon a specimen in the Sartwell herbarium, Hamilton College, plainly labelled as having been collected by Sartwell, in Steuben county.

Family 8 **ARMERIACEAE** Dumort. Comm. Bot. 61. 1822
(Plumbaginaceae Lindl. nat. Syst. ed. 2, 269. 1836)

Plumbago family

LIMONIUM (Tourn.) Mill. Gar. Dict. abr. ed. 4. 1754
Statice Willd. Sp. Pl. 1: 1552. 1798

1 **Limonium Nashii** Small; Blake, Rhodora 18: 61. pl. 118. f. D.
1916 Seaside lavender, marsh rosemary, cankerroot

Calyx pubescent only at the base or on one or two of the ribs to the middle; calyx-lobes 1-1.7 mm long. Blake, Rhodora 25: 57. 1923, reports a single collection from Cedar Point, Long Island, J. Schrenk. Bayville, Nassau county, House.

Var. **trichogonum** Blake, Rhodora 25: 58. 1923

Statice *Limonium* Bigelow, Fl. Bost. 75. 1814. Not L.
S. caroliniana Pursh, Fl. Am. Sept. 212. 1814. Not Walt.
L. carolinianum of N. Y. reports
L. trichogonum Blake, Rhodora 18: 61. pl. 119. f. E. 1916

The common rosemary of the salt marshes along the coastal district of the State, characterized by having the calyx densely pubescent to the middle or above, on all of the ribs. Forma **albiflorum** (Raf.) comb. nov. (*S. caroliniana* var. *albiflora* Raf. Med. Bot. 2: 94. 1830), with white flowers, occurs somewhat rarely on Long Island.

2 **Limonium carolinianum** (Walt.) Britton, var. **angustatum**
(Gray) Blake, Rhodora 25: 56. 1923

Statice *brasilinensis* var. *angustatum* Gray, Syn. Fl. 21: 54. 1878
L. carolinianum Mohr, Contr. U. S. Nat. Herb. 6: 663. 1901

Calyx entirely glabrous, its lobes 1 mm long or less. Blake (l.c.) cites a single collection from New Dorp, Staten Island, Pollard.

Family 9 **EBENACEAE** Vent. Tabl. 2: 443. 1779

Ebony family

DIOSPYROS L. Sp. Pl. 1057. 1753

Diospyros virginiana L., l.c. Persimmon, Date plum

Frequent on Long Island and Staten Island and in Westchester county along or near the shore of Long Island sound.

Family 10 **JASMINACEAE** Desv. Fl. Anjou. 187. 1827

(Oleaceae Lindl. 1830)

Jasmine or olive family

SYRINGA L. Sp. Pl. 9. 1753

Syringa vulgaris L., l.c. Lilac

Native of eastern Europe. Common in cultivation and frequently escaped to roadsides, etc., or long persistent in neglected grounds.

FRAXINUS (Tourn.) L. Sp. Pl. 1057. 1753

1 **Fraxinus americana** L. Sp. Pl. 1057. 1753 White ash

F. novae-anglicae Wangh. Beitr. Fachwiss. 51. 1781

F. alba Marsh. Arb. Am. 51. 1785

F. canadensis Wangh., l.c. 81

F. epiptera Michx. Fl. Bor. Am. 2: 256. 1803

F. juglandifolia Lam. Encycl. Meth. 2: 547. 1790

F. acuminata Lam. Dict. 2: 542. 1786

In rich woods, north shore of Long Island and on Staten Island, common northward and westward across the State, and in the Adirondacks, up to 2000 feet altitude, and rarely at higher altitudes.

A form with the wing of the fruit extending nearly to the middle of the body, described as **F. Smallii** Britton, N. Am. Trees, 805. 1908, reported from near Rochester (Sargent, Man. 845. 1922), has the appearance of being a hybrid between *F. americana* and *F. lanceolata*.

2 **Fraxinus pennsylvanica** Marsh. Arb. Am. 51. 1785

Darlington's ash, Pennsylvania sharp-keyed ash

F. Darlingtonii Britton, Man. 725. 1901

Hillsides and river banks or wet woods. Rare in central New York and the Hudson valley, increasingly frequent southward.

Marshall's name "*F. pennsylvanica*" has long been applied to the common red or green ash; but that was called *F. americana* by Marshall, and for our white ash he used the name *F. alba*, and *F. pennsylvanica*, he says that the samaras are "longer and narrower than any of the other kinds, almost terminating in a point at the base." It is difficult to understand how this statement has so long been reconciled with the comparatively broad samaras of the red ash, especially when the description and type locality of his *F. pennsylvanica* can apply to none other than what has more recently been called *F. Darlingtonii*.

3 **Fraxinus Michauxii** Britton, Man. ed. 2, 1075. 1905

Michaux's ash

F. tomentosa Michx. Arb. Am. Sept. 3: 112. in part. 1813

Described by Doctor Britton as native in the New York Botanical Garden. Distribution elsewhere in this State imperfectly known. Sargent regards it as a mere form of the Red Ash (*F. pubescens*).

4 **Fraxinus pubescens** Lam. Encycl. 2: 543. 1786

Red or black ash

F. americana Marsh. Arb. Am. 50. 1785. Not L.

F. novae-angliae DuRoi, Harb. Baumz. 1: 290. 1772. Not Mill. 1768

F. nigra Pott. in DuRoi l.c. 398. Not Marsh.

F. pubescens Walt.; Torr. Fl. N. Y. 2: 126. 1843 (incl. pl. 90, which is labelled *F. concolor*)

F. pennsylvanica of recent Floras & Manuals

In moist soil, chiefly along streams. Frequent across the State outside of and chiefly south of the Adirondack region. Increasingly abundant southward.

5 *Fraxinus lanceolata* Borkh. Handb. Forstb. 826. 1800

Green or blue ash

F. viridis Michx. f. Hist. Arb. Am. 3: 115. pl. 10. 1813. ? Bosc. 1811*F. pennsylvanica* var. *lanceolata* Sargent, Silva 6: 50. 1894

In moist soil, often along streams, and in low or wet woodlands. Frequent or common across the State, and extending farther northward and to higher altitudes in the mountainous sections of the State, than the preceding species, with which it is united by some authorities, and by others considered a variety of it.

6 *Fraxinus profunda* Bush; Britton, Man. 725. 1901

Pumpkin ash

In swamps. Recorded from western New York (*Sartwell*), but definite records have not been verified.

7 *Fraxinus nigra* Marsh. Arb. Am. 51. 1785

Black or brown ash, hoop ash

F. sambucifolia Lam. Encycl. 2: 549. 1786

In swamps and wet woods. Common across the State northward, and westward to Lake Erie. Rare south of the Hudson highlands and recorded from only a few localities on western Long Island and Staten Island.

Fraxinus americana and *F. pubescens*, especially, and the other species of ash to some extent are variable in regard to shape of leaflets, degree of pubescence, and especially in regard to the shape and size of the samaras. How far these differences may be correlated in the recognition of distinct forms or species is a perplexing problem. The investigation of the problem is complicated by an extraordinary number of imperfectly described species, proposed chiefly between 1800 and 1836 by L. A. G. Bosc and by Rafinesque, as well as by several other botanists.

Bosc (Mem. Instit. Fr. ix. 1808: 204. 1811) describes nearly a dozen species which appear to have come from the eastern states, and Rafinesque (Alsog. Am. 33-38) describes about twice that number, and under *Leptelix* (New Fl. 3: 93), increases the number greatly.

LIGUSTRUM (Tourn.) L. Sp. Pl. 7. 1753

Ligustrum vulgare L., l.c.

Privet

Common in cultivation and occasionally escaped or established in thickets and along roadsides, especially in southern New York. Native of Europe and Asia.

CHIONANTHUS L. Sp. Pl. 8. 1753

Chionanthus virginica L., l.c. Fringe tree

A shrub or small tree frequent in cultivation, and occasionally in the Hudson valley and southern New York, inclined to become established. Native from New Jersey southward.

Family 11 **SPIGELIACEAE** Martius, Nov. Gen. 2, 2: 132 1827

LOGANIACEAE Dumort. Anal. Fam. 21. 1829

Logania family

POLYPREMUM L. Sp. Pl. 111. 1753

Polypremum procumbens L., l.c. Polypremum

In dry sandy soil. Wading River, Long Island, *E. S. Miller* Torr. Club Bul. 4: 41. 1873. Probably adventive from the South.

Family 12 **GENTIANACEAE** Desv. Fl. Anjou. 184. 1827

Gentian family

CENTAURIUM Hill, Brit. Herb. 62. 1756

Erythraea Neck. Elem. 2: 10. 1790

1 **Centaurium Centaurium** (L.) W. F. Wight, Contr. Nat. Herb.

11: 449. 1906 European centaury, bitterherb, bloodwort

Gentiana Centaurium L. Sp. Pl. 229. 1753

E. Centaurium Pers. Syn. 1: 283. 1805

In fields and by roadsides or in waste places. Naturalized from Europe.

First observed about the old fort grounds at Oswego, *Aiken* (Herb. Sartwell; Beck, Bot. 242. 1833; Torrey, Fl. N. Y. 2: 111. 1843; Paine, Cat. Pl. Oneida Co. 116. 1865; Wiegand, Torr. Club Bul. 6: 70. 1906). Putnam county, *Torrey*, l.c. West and south of Oswego to Baldwinsville, *House*. Canal banks near Cartersville, *Baxter* (Proc. Rochester Acad. 5: 23. 1910). Suggested by St John (Bost. Soc. Nat. Hist. 36: 90. 1921) that it may be native. Its spread from the old fort grounds does not so indicate.

2 **Centaurium pulchellum** (Sw.) Druce, Fl. Oxf. 342. 1897
Branching centaury

Gentiana pulchella Sw. Act. Holm. 1783: 84. f. 8, 9. 1783

G. ramosissima Vill. Hist. Pl. Dauph. 2: 530. 1787

E. ramosissima Pers. Syn. 1: 283. 1805

E. pulchella Fries, Novit. 74. 1828

E. Muhlenbergii Griseb.; Torr. Fl. N. Y. 2: 111. 1843

In fields and waste places. Rare. Naturalized from Europe. Wet Meadows, Flushing, *Torrey* (l.c.)

SABBATIA Adans. Fam. Pl. 2: 503. 1763**1 Sabbatia angularis** (L.) Pursh, Fl. Am. Sept. 137. 1814

Bitterbloom, rose pink, square-stemmed sabbatia.

Chironia angularis L. Sp. Pl. 190. 1753

In rich soil, often in thickets. Infrequent on Long Island and Staten Island and northward into Westchester county.

Forma **albiflora** (Raf.) House comb. nov. (*S. angularis* var. *albiflora* Raf. Med. Bot. 2: 77. 1830), with white flowers, has not to my knowledge been observed in this State.

2 Sabbatia stellaris Pursh, Fl. Am. Sept. 137. 1814

Sea or marsh pink

Chironia amoena Raf. Med. Repos. (II) 5: 359. 1808. Not Salisb.*C. stellata* Muhl. Cat. ed. 2, 23. 1818

Common in most of the salt meadows along the coast in southeastern New York.

Forma **albiflora** Britton, (*S. maritima* Raf. Med. Bot. 2: 77. 1830), with white petals, these often with the yellow and rose colored eye or center, frequent.

3 Sabbatia campanulata (L.) Torr. Fl. N. & Mid. U. S. 1: 217.

1824

Slender marsh pink

Chironia campanulata L. Sp. Pl. 190. 1753*C. gracilis* Michx. Fl. Bor. Am. 1: 146. 1803*S. gracilis* Salisb. Parad. Lond. pl. 32. 1806

In salt marshes, salt meadows and along brackish rivers. Infrequent along the south of Long Island and the bay side of Staten Island.

4 Sabbatia dodecandra (L.) B. S. P. Prel. Cat. N. Y. 36. 1888

Large marsh pink

Chironia dodecandra L. Sp. Pl. 190. 1753*C. chloroides* Michx. Fl. Bor. Am. 1: 147. 1803*S. chloroides* Pursh, Fl. Am. Sept. 138. 1814

In sandy borders of ponds and along salt-marshes. Local or infrequent on Long Island and Staten Island.

GENTIANA (Tourn.) L. Sp. Pl. 227. 1753Subgenus **Gentianella**Section **Crossopetalum***Anthopogon* Neck. Elem. 2: 12. 1790*Gentianella* Moench. Meth. 482. 1794*Tretorrhiza* Delarb. Fl. Auv. ed. 2, 1: 24. 1800*Denckea* Raf. Med. Repos. II: 5: 352. 1808

1 **Gentiana crinita** Froel. Gen. 112. 1796 Fringed gentian

G. ciliata β. *americana* L. Syst. 1: 645. 1756
G. fimbriata Andr. Bot. Repos. 509. 1797-1804
Gentianella crinita Bercht. & Presl, Rostl. i. Gent. 21
Anthopogon crinita Raf. Fl. Tellur. 3: 25. 1837
Denckea crinita Raf. Med. Repos. II. 5: 352. 1808
G. americana MacM. Met. Minn. 421. 1893

In moist woods and low meadows, margins of swamps and on wet slopes. Frequent, formerly common, across the State outside of the Adirondacks and Catskills. Very rare on Long Island and Staten Island.

Forma **albina** Fernald, Rhodora 19: 152. 1917, with white flowers, occasional or rare.

2 **Gentiana procera** Holm, Ottawa Nat. 15: 11. 1901

Smaller fringed gentian

G. detonsa Torr. Fl. N. Y. 2: 108. 1843. Not Rottb.
G. serrata A. Gray, Man. ed. 6, 349. 1889. Not Gunner

On banks and rocks. Rare in the western part of the State.

Wet limestone rocks, Goat Island, Niagara Falls, *Barratt, Kneiskern*; near Irondequoit Mills, *Kneiskern* (Torrey, l.c.). Paine (Cat. 189. 1865) gives the same localities and adds: "verge of bluffs along Lake Ontario west of Irondequoit bay and on shaded moist sides of ridges." (See Proc. Rochester Acad. 3: 85. 1896).

Section **A m a r e l l a**

Amarella Gilib. Fl. Lituan. 1: 36. 1781
 Hippon F. W. Schmidt, Fl. Boem. 2: 18. 1793
Eyrythalia Renealm. ex Borckh. in Roem. Arch. 1: 28. 1796
Opsantha Delarb. Fl. Auv. Ed. 2, 1: 30. 1800
Aloitis Raf. Fl. Tellur. 3: 21. 1837
Pogoblephis Raf., l.c. 26
Leimanisa Raf. New Fl. 4: 93. 1838

3 **Gentiana quinquefolia** L. Sp. Pl. 230. 1753

Stiff gentian, agueweed

G. quinqueflora Lam. Encycl. 2: 643. 1786
G. amarelloides Michx. Fl. Bor. Am. 1: 175. 1803
Aloitis quinqueflora Raf. Fl. Tellur. 3: 22. 1837
A. mesochroa & *A. foliosa* Greene, Leaflets 1: 94. 1904

In moist or dry soil, usually under some shade, often in open places. Frequent across the State south of and outside of the Adirondack region from Lake George and Washington county to Lewis and Jefferson counties, Lake Erie and southward to the Hudson highlands and into Pennsylvania.

Forma **lutescens** Fernald, Rhodora 19: 151. 1917, with yellowish-white corollas is rare.

Subgenus *Dasystephana*

Dasystephana (Renealmus) Adans. Fam. Pl. 2: 502. 1763
Ciminalis Adans., l.c. 504; Raf. Fl. Tellur. 3: 19. 1837
Pneumonanthe (Cordus) Gilib. Fl. Lituan. 1: 38. 1781
Cuttera Raf. Med. Repos. II. 5: 352. 1808
Diploma, *Dasistepha*, *Gonipia*, *Xolemia* Raf. Fl. Tellur. 3: 19-23. 1837
Ericala G. Don, Gen. Syst. 4: 188. 1838. Not S. F. Gray

4 *Gentiana puberula* Michx. Fl. Bor. Am. 1: 176. 1803

Downy gentian

Pneumonanthe puberula Greene, Leaflets 1: 71. 1904
Dasystephana puberula Small, Fl. SE. U. S. 930. 1903

In moist meadows. Monroe and Erie counties, westward and southward. Rare.

Buffalo, *G. W. Clinton* (32d Rep't N. Y. State Mus. 24. 1880), and in state herbarium. Bushnell's Basin, Monroe county, *Beckwith*; Irondequoit bay (Proc. Rochester Acad. 3: 86. 1896; 5: 91. 1917).

5 *Gentiana Saponaria* L. Sp. Pl. 228. 1753

Soapwort or blue gentian

G. Catesbaei Walt. Fl. Car. 109. 1788
G. pneumonanthe Michx. Fl. Bor. Am. 1: 176. 1803. Not L.
Xolemia Catesbaei Raf. Fl. Tellur. 3: 22. 1837
Pneumonanthe saponaria F. W. Schmidt, l.c. 10
Cuttera saponaria Raf. Med. Repos. II. 5: 352. 1808
Dasystephana saponaria Small, l.c.

In moist or wet soil, usually in thickets or open woods. Frequent south of the Hudson highlands, and on Long Island and Staten Island. Rare northward and westward to Penn Yan, Yates county, *Sartwell*; and Greece, Monroe county, *Bradley*, (Proc. Rochester Acad. 3: 86. 1896).

Fernald (*Rhodora* 19: 147-149. 1917) maintains *G. Saponaria*, *G. clausa* and *G. Andrewsii* as 3 distinct species. Material available from New York State has not convinced the writer that *G. clausa* is anything more than an earlier name for our common *G. Andrewsii*.

6 *Gentiana clausa* Raf. Med. 1: 210. 1828

Closed blue or blind gentian

G. Andrewsii Griseb. in Hook. Fl. Bor. Am. 2: 55. 1834
Xolemia clausa Raf. Fl. Tellur. 3: 22. 1837
Dasystephana Andrewsii Small, l.c.
D. clausa Heller, Cat. Ed. 3, 284. 1913

In moist soil of thickets and open places. Frequent northward and westward across the State outside of the higher Adirondacks. Southward to Westchester county and the north side of Long Island. Rare on Staten Island.

Forma *albiflora* (Gray) House, N. Y. State Mus. Bul. 243-244: 18. 1923. (*G. Andreæsi* var. *albiflora* Gray; *G. Andreæsi* forma *albiflora* Britton) is rare. Auburn, *Holzer*. Salamanca, *G. W. Clinton*.

7 *Gentiana linearis* Froel. Gent. 37. 1796

Narrow-leaved gentian

G. saponaria Torr. Fl. N. Y. 2: 106. 1843 (excl. syn. L.)
G. saponaria var. *linearis* Griseb. in Hook., l.c. 55
G. rubricaulis Schw. in Keating's Narr. Long Exp. 2: 384. 1834
Gonipia linearis Raf. Fl. Tellur. 3: 24. 1837
Diploma hudsonica Raf., l.c. 27
Gentiana Torreyana Raf. Med. Fl. 1: 212. 1828
Pneumonanthe linearis Greene, Leaflets 1: 71. 1904
Dasystephana linearis Britton, in Britton & Brown, Illus. Fl. ed. 2, 3: 13. 1913

In bogs and marshy places, low woods or mountain sides. Common throughout the northern counties and the Adirondack region, to the summit of Mount Marcy, the Catskills of Ulster and Greene counties. Elsewhere rare or local.

Forma *Blanchardii* Fernald, *Rhodora* 19: 152. 1917, with white corollas has been collected by *Peck* at Floodwood, Franklin county.

8 *Gentiana Grayi* Kusenezow, Act. Hort. Petrop. 13: 59. 1893

Gray's gentian

G. linearis var. *latifolia* A. Gray, Proc. Am. Acad. 22: 309. 1887
G. rubricaulis Britton & Brown, Illus. Fl. ed. 1. Not Schw.
Dasystephana Grayi Britton in Britton & Brown, Illus. Fl. ed. 2, 3: 13. 1913

Ranging from New Brunswick to western Ontario, Michigan and Minnesota. Not definitely known from New York, but reported from "central New York" by Britton & Brown.

Gentiana villosa L. (*G. ochroleuca* Froel., *G. saponaria* Michx. not L., *D. villosa* Small) is credited to New York by Torrey (Fl. N. Y. 2: 107. 1843), but the Sartwell specimen cited is *G. saponaria*. The Long Island collection by Eddy which is also cited is not known to be in existence, and the species probably does not reach New York in its distribution.

FRASERA Walt. Fl. Car. 87. 1788

Frasera carolinensis Walt., l.c.

American columbo

F. Walteri Michx. Fl. Bor. Am. 1: 67. 1803
F. verticillata Raf. Med. Fl. 1: 196. 1828

In rather dry soil of open woods and meadows. Infrequent or rare from Ontario, Monroe and Livingston counties, westward and southward.

Banks of the Genesee river, *Hadley*; East Bloomfield, Ontario county, *Sartwell*; Penfield, Monroe county, *Holzer*, *Booth*; south of Moscow, Livingston county, *Bradley* (Paine, Cat. 116. 1865).

Allen's creek, *Mrs Ross*; Geneseo, *Baxter*; Avon, *Dewing* (Proc. Rochester Acad. 5: 23. 1910). Sonyea, Livingston county, *Killip*.

HALENIA Borck. in Roem. Arch. 1: 25. 1796

Tetragonanthus S. G. Gmel. Fl. Sib. 4: 114, Hyponym. 1769

Halenia deflexa (J. E. Smith) Griseb. in Hook. Fl. Bor. Am. 2: 67.
pl. 155. 1834 Spurred gentian

Swertia deflexa J. E. Smith, in Rees' Cyclop. No. 8. 1816

S. corniculata Michx. Fl. Bor. Am. 1: 97. 1803. Not L.

S. americana Spreng. Syst. 1: 861. 1825

S. Michauxiana R. & S. Syst. 6: 130. 1820

Halenia Michauxiana G. Don, Gen. Syst. 4: 177. 1838

H. brentoniana Griseb., l.c.

Tetragonanthus deflexus Kuntze, Rev. Gen. Pl. 431. 1891

In moist woods and thickets. Rare in the northern part of the State southward to Sullivan county.

Borders of small lakes in northern part of the State, *Hadley* (Torrey, Fl. N. Y. 2: 110. 1843). Trenton Falls, *Haberer, Peck* (N. Y. State Mus. Bul. 67: 34. 1903). Newport, Herkimer county, *G. S. Graves*. Cocheton, Sullivan county, *Joseph Schrenk* (Torr. Club Bul. 14: 200. 1887). Fairfield, Herkimer county, *Hadley* (Herb. Beck). Sylvan Beach, Oneida county, *House*.

BARTONIA Muhl.; Willd. Neue Schrift. Ges. Nat. Fr.

Berlin 3: 444. 1801

Centaurella Michx. Fl. Bor. Am. 1: 97. 1803. Not Delarb. 1800.

Centaureum Pers. Syn. 1: 137. 1805

Andrewsia Spreng. Anleit. 1: 474. 1817; Syst. 1: 428. 1825

1 *Bartonia virginica* (L.) B. S. P. Prel. Cat. N. Y. 36. 1888

Yellow bartonia, screwstem

Sagina virginica L. Sp. Pl. 128. 1753

B. tenella Willd., l.c.

Centaureum autumnale Pers., l.c.

Centaurella autumnalis Pursh, Fl. Am. Sept. 110. 1814

B. paniculata Eaton, Man. ed. 2, 170. 1818

Andrewsia autumnalis Spreng., l.c.

In moist soil and mossy boggy depressions, chiefly in sandy regions. Locally common from Washington and Saratoga counties westward to Lake Ontario and across the Ontario lowlands, southward to Long Island and Staten Island.

2 *Bartonia paniculata* (Michx.) Muhl., Bigel. Fl. Bost. 34. 1814.
as syn. — Robinson, *Rhodora* 10: 35. 1908 Branched bartonia

Centaurella paniculata Michx. Fl. Bor. Am. 1: 96. 1803

Andrewsia paniculata Spreng. Anleit. 474. 1817

B. Moseri Steud. & Hochst.; Griseb. Gent. 308. 1839

B. lanceolata Small. Fl. SE. U. S. 932. 1903

In wet sandy soil. Rare on Long Island. Reported from Smithfield, Suffolk county and from Forbell's Landing, *Hulst*.

- 3 **Bartonia iodantha** Robinson, Bot. Gaz. 26: 46-48. 1898
 Purplish-flowered bartonia
 Reported from Long Island, *Bicknell* (Torr. Club Bul. 42: 33. 1915).

Family 13 **MENYANTHACEAE** G. Don, Gen. Syst. 4: 167. 1838

Buckbean family

MENYANTHES (Tourn.) L. Sp. Pl. 145. 1753

- Menyanthes trifoliata** L., l.c. Buckbean, marsh trefoil
M. verna Raf. Med. Bot. 2: 33. 1830

In bogs. Common northward and in central New York. Less frequent westward and southward, and rare on Long Island and Staten Island.

TRACHYSPERMA Raf. Med. Repos. (II) 5: 352. 1808

- Villarsia* J. F. Gmel. Syst. 447. 1791. Not Necker, 1790
Limnanthemum & *Nymphoides*, Authors, in part. Not as to types

- Trachysperma lacunosa** (Vent.) House, N. Y. State Mus. Bul. 233-234: 66. 1922 Floating heart

- Villarsia lacunosa* Vent. Choix des Plantes, 9. 1803
Limnanthemum lacunosum Griseb. Gent. 347. 1839
V. cordata Ell. Bot. S. C. & Ga. 1: 230. 1817
Nymphoides lacunosum Kuntze, Rev. Gen. Pl. 429. 1891

In ponds and lakes. Infrequent or locally abundant but irregularly and widely distributed throughout the State.

Wading River, Long Island, *E. S. Miller* (Torr. Club Bul. 2: 37. 1871); *Peck*. Babylon, *J. S. Merriam* (Torr. Club Bul. 3: 2. 1872). Oneida lake, *Kneiskern* (Paine, Cat. Pl. Oneida Co. 117. 1865). Beaver lake, Tract No. 4, Lewis county, *B. D. Gilbert* (Torr. Club Bul. 6: 362. 1879). Sandlake, Rensselaer county, *Aiken* (Sartwell herbarium), *Beck*, *Peck*. Fourth lake, Herkimer county; Lake Harris, Essex county, *House*.

Family 14 **APOCYNACEAE** Desv. Fl. Anjou. 188. 1827

Dogbane family

AMSONIA Walt. Fl. Car. 98. 1788

- Amsonia** *Amsonia* (L.) Britton, Torr. Club Mem. 5: 262. 1894
 Amsonia

- Tabernaemontana Amsonia* L. Sp. Pl. ed. 2, 308. 1762
Amsonia Tabernaemontana Walt., l.c.
A. latifolia Michx. Fl. Bor. Am. 1: 121. 1803
A. salicifolia Pursh, Fl. Am. Sept. 184. 1814

Edge of woods, Valley Stream, Long Island, *Frank H. Ames*, June 5, 1915. The only New York record for this southern species.

VINCA L. Sp. Pl. 209. 1753

Vinca minor L., l.c.

Periwinkle, myrtle

In woods, along roadsides and in old or neglected yards. Common in most sections of the State outside of the mountains. Naturalized from Europe.

APOCYNUM L. Sp. 213. 1753

1 **Apocynum androsaemifolium** L., l.c.

Spreading dogbane

A. divergens Greene, Leaflets 1: 56. 1904

In fields and thickets. Common throughout the State, and in the Adirondacks to above 2500 feet altitude.

2 **Apocynum medium** Greene, Pittonia 3: 29. 1897

Intermediate dogbane

A. speciosum G. S. Miller, Proc. Biol. Soc. Wash. 13: 83. 1899

In fields, on hillsides and borders of woods and thickets. Infrequent or locally common across the State outside of the Adirondack and Catskill mountains and north of the coastal plain.

3 **Apocynum Milleri** Britton, Man. 739. 1901

Miller's dogbane

In rather dry, frequently sandy soil. Infrequent in the eastern and southern parts of the State.

4 **Apocynum cannabinum** L. Sp. Pl. 213. 1753

Indian hemp, armyroot

A. cannabinum glaberrimum DC. Prodr. 8: 439. 1844

A. nemorale G. S. Miller, l.c. 87

A. urceolifer G. S. Miller, l.c.

A. ithacense Greene, Leaflets 2: 170. 1912

A. procerum Greene, l.c. 169

In fields and thickets. Frequent or common across the State outside of the higher mountains.

A variable species in respect to size of flowers, branching of the inflorescence, pubescence of the stems and leaves and in the shape of the leaves. Among the many species proposed by Doctor Greene, the following apparently also belong here: *A. isophyllum*, *A. platyspermum* and *A. sarniense*.

In addition to these, *A. nemorale glabrum* Beg. & Bel. Monogr. Apocynum III. 1913, is based upon a collection from Oneida, collected by Mrs S. A. Maxon.

Sartwell's specimen from Penn Yan (National herbarium) is referred to *A. pseudintermedium* Beg. & Bel.

- 5 *Apocynum sibericum* Jacq. Hort. Vind. 3: 37. pl. 66. 1776
Clasping-leaved dogbane

A. hypericifolium Ait. Hort. Kew. 1: 304. 1789
A. cannabinum var. *hypericifolium* Gray, Man. 365. 1848
A. album Greene, Pittonia 3: 230. 1897
A. littorale Greene, Leaflets 2: 171. 1912
A. subuligerum Greene, l.c.

In stony, gravelly or sandy places, chiefly along streams and shores of lakes and ponds. Common across the State northward. Less frequent or rare westward to Lake Erie and southward to the north shore of Long Island.

- 6 *Apocynum pubescens* R. Br. Mem. Wern. Soc. 1: 68. 1811
Velvet dogbane

A. cannabinum var. *pubescens* DC. Prodr. 8: 440. 1844

In dry sandy soil. Frequent on the coastal plain of Long Island. Locally inland at Sanquoit, Oneida county, *Haberer* 3554.

Family 15 ASCLEPIADACEAE Lindl. Nat. Syst. ed. 2, 302.
1836

Milkweed family

ASCLEPIAS L. Sp. Pl. 214. 1753

- 1 *Asclepias tuberosa* L., l.c. 217
Butterflyweed, pleurisy-root

In dry fields and roadsides. Frequent across the State outside of the higher Adirondacks, but rare or absent from most of the upper Delaware and Susquehanna watersheds. Common on Long Island and Staten Island.

- 2 *Asclepias purpurascens* L. Sp. Pl. 214. 1753
Purple milkweed

A. amoena Michx. Fl. Bor. Am. 1: 118. 1803, and probably also L. Sp. Pl. 214. 1753

In dry fields and roadsides. Frequent across the State outside of the State, northward to Rensselaer, Saratoga and Schenectady counties, and westward to central New York. Perhaps of wider distribution in the State westward but definite records are lacking.

- 3 *Asclepias incarnata* L. Sp. Pl. 215. 1753
Swamp milkweed

In swamps and along shores of streams, lakes and ponds. Common northward throughout most sections of the State, but rare on Long Island, north shore only, and south of the Hudson highlands.

4 *Asclepias pulchra* Ehrh.; Willd. Sp. Pl. 1: 1267. 1798

Hairy swamp milkweed

A. incarnata var. *pulchra* Pers. Syn. 1: 276. 1805*A. maritima* Raf. Am. Mo. Mag. 2: 119. 1817

In moist fields and swamps. Common on Long Island and Staten Island. Less frequent northward to Putnam and Orange counties.

Forma *albiflora* House, N. Y. State Mus. Bul. 243-244: 61. 1923, with white flowers. Clove lake swamp, Staten Island, *Hollick* (Torr. Club Bul. 6: 294. 1879).

5 *Asclepias amplexicaulis* J. E. Smith, Georgia Insects 1: 13. pl. 7. 1797

Blunt-leaved milkweed

A. purpurascens Walt. Fl. Car. 105. 1788. Not L.*A. obtusifolia* Michx. Fl. Bor. Am. 1: 115. 1803

In dry fields, usually in sandy soil. Common across the State from Essex county to Jefferson county and Lake Erie and southward.

Asclepias Bicknellii Vail, Torr. Club Bul. 31: 458. 1904, from Van Cortlandt Park, New York City, is intermediate between *A. amplexicaulis* and *A. exaltata*, and is probably a hybrid.

Asclepias intermedia Vail, l.c. 459, from Lawrence, Long Island, *Bicknell*, is intermediate between *A. amplexicaulis* and *A. syriaca*, and is doubtless a hybrid between those two species. A similar plant found near Albany, corresponds to this except that the purple flowers suggest *A. purpurascens* as one of the hybrid parents.

6 *Asclepias exaltata* (L.) Muhl. Cat. 28. 1813

Poke or tall milkweed

A. syriaca var. *exaltata* L. Sp. Pl. ed. 2, 313. 1762*A. phytolaccoides* Pursh, Fl. Am. Sept. 180. 1814

In thickets and woods. Infrequent from Washington county westward to Lake Erie and southward. Rare on the north side of Long Island, occasional on the south side, and on Staten Island.

7 *Asclepias variegata* L. Sp. Pl. 217. 1753

White milkweed

In dry woods and thickets. Infrequent or rare in the southeastern part of the State, and not reported from north of Westchester county.

8 *Asclepias quadrifolia* Jacq. Obs. Pl. 2: 8, pl. 33. 1767

Four-leaved milkweed

A. vanilla Raf. Am. Mo. Mag. 4: 40. 1818

In woods and thickets, usually in dry soil. Frequent across the State from Rensselaer county to Lake Ontario and Lake Erie, southward to Staten Island and the north side of Long Island.

9 *Asclepias syriaca* L. Sp. Pl. 214. 1753

Common fragrant milkweed, silkweed

A. fragrans Raf. Med. Repos. (II) 5: 354. 1808

A. Cornuti Dec. in DC. Prodr. 8: 564. 1844; Torr. Fl. N. Y. 2: 119. 1843

In fields and waste places. Common throughout the State, except in the Adirondacks, where it is found only in open places chiefly below 2000 feet altitude, and often appearing there as elsewhere like an introduced weed species.

10 *Asclepias verticillata* L. Sp. Pl. 217. 1753

Whorled milkweed

In dry fields and on hills. Occasional on Long Island and Staten Island, but rare or lacking in the pine-barrens. Locally northward to Albany and Schenectady counties, and westward to Monroe and Erie counties.

ACERATES Ell. Bot. S. C. & Ga. 1: 316. 1817

Polyotus Nutt. Trans. Am. Phil. Soc. (II) 5: 199. 1834

Acerates viridiflora (Raf.) Ell., l.c. 317. Green milkweed

Asclepias viridiflora Raf. Med. Repos. (II) 5: 360. 1808

Polyotus heterophyllus Nutt., l.c.

Asclepias lanceolata Ives, Am. Jour. Sci. 1: 252. 1819

Gomphocarpus viridiflorus Decne, in DC. Prodr. 8: 561. 1844

In dry sandy or rocky soil. Frequent or common on Long Island and Staten Island. Unknown in the Bronx. Rare in Ulster county, *Taylor*.

CYNANCHUM L. Sp. Pl. 212. 1753

1 *Cynanchum nigrum* (L.) Pers. Syn. 1: 274. 1805

Black swallowwort

Asclepias nigra L. Sp. Pl. 216. 1753

Vincetoxicum nigrum Moench, Meth. 317. 1794

In waste places. Escaped from gardens, chiefly in the southeastern part of the State. Rare northward and westward in the State. Native of Europe.

2 *Cynanchum Vincetoxicum* (L.) Pers. l.c.

White swallowwort

Asclepias vincetoxicum L. Sp. Pl. 216. 1753

V. officinale Moench, Meth. 317. 1794

In waste places. Escaped from cultivation and established near Rochester. Native of Europe.

PERIPLOCA L. Sp. Pl. 211. 1753**Periploca graeca** L., l.c.

Silk vine

Reported as established near Rochester, *Sartwell* (in Sartwell herbarium and Paine, Cat. Pl. Oneida Co. 118. 1865), but not recently collected as an escape in this State. Native of Europe.

Family 16 **CONVOLVULACEAE** Vent. Tabl. 2: 394. 1799

Morning-glory family

IPOMOEA L. Sp. Pl. 159. 1753Subgenus **Quamoclit****Quamoclit** (Tourn.) Moench, Meth. 453. 17941 **Ipomoea Quamoclit** L. Sp. Pl. 159. 1753

Cypress vine, Indian pink

Q. vulgaris Choisy, in DC. Prodr. 9: 336. 1845*Q. Quamoclit* Britton, in Britton & Brown, Illus. Fl. 3: 22. 1898

A rare adventive on ballast or rarely in waste places in southeastern New York. Rarely long persistent. Native of tropical America.

2 **Ipomoea coccinea** L., l.c. 160

Small red morning-glory

I. hederacea L. Syst. Ed. 10, 925. 1759*Q. coccinea* Moench, l.c.

In waste places and very rarely in thickets and along stream banks. An infrequent or rare escape from cultivation in southeastern New York. Native of tropical America.

Subgenus **Euipomoea**Section **Pharbitis**

Nil Medicus in Staatw. Vorles. Churpf. Phys.-Oak. Ges. 1: 210. 1791

Convolvuloides Moench, Meth. 451. 1794*Pharbitis* Choisy, Mem. Soc. Phys. Genev. 6: 438. 18333 **Ipomoea purpurea** (L.) Lam. Tabl. Encycl. 1: 466. 1791

Morning-glory

Convolvulus purpureus L. Sp. Pl. ed. 2, 219. 1762*Pharbitis purpurea* Voigt, Hort. Sub. Calcutta 354. 1845

In waste places. Commonly escaped from gardens especially in southern New York. rare northward as an escape and nowhere long persistent. Native of tropical America.

4 **Ipomoea hederacea** Jacq. Icon. Rar. pl 36. 1781

Ivy-leaved morning-glory

Pharbitis hederacea Choisy, l.c. 440

In fields and waste places, especially in the southern part of the State. Rare northward to Albany, Oneida and Erie counties, usually as an escape from cultivation, and probably nowhere long persistent in our latitude. Native of tropical America.

Section Batatas

Batatas Choisy, Conv. Rar. 127. 1837

5 *Ipomoea pandurata* (L.) Meyer, Prim. Fl. Esseq. 100. 1818
Wild potato vine

Convolvulus panduratus L. Sp. Pl. 153. 1753
C. ciliolatus Michx. Fl. Bor. Am. 1: 139. 1803
I. ciliosa Pursh, Fl. Am. Sept. 146. 1814
C. candicans Soland; Sims, Bot. Mag. pl. 1603. 1813

In dry soil in fields or on hills. Infrequent or rare on Long Island and Staten Island and northward into Westchester county. In western New York from Monroe county, westward and southward (Proc. Rochester Acad. 5: 24. 1910).

CONVOLVULUS L. Sp. Pl. 153. 1753

Calystegia R. Br. Prodr. 483. 1810

1 *Convolvulus spithameus* L., l.c. Upright or low bindweed

C. stans Michx. Fl. Bor. Am. 1: 136. 1803
Calystegia spithameus Pursh, Fl. Am. Sept. 143. 1814
Convolvulus camporum Greene, Pittonia 3: 328. 1898

In dry sandy or rocky fields and thickets. Locally common across the State northward, chiefly outside of the Adirondacks, to Lake Champlain, *Michaux*; Tahawas, Essex county, *House*, and St Lawrence county; *Mrs O. P. Phelps*. Locally frequent southward in the State, chiefly outside of calcareous soils.

2 *Convolvulus japonicus* Thunb. Fl. Jap. 85. 1784
Japanese bindweed

In fields and waste places, often along fence rows and roadsides. Locally abundant as a weed, escaped from cultivation or introduced with seed. Native of Japan.

3 *Convolvulus Sepium* L. Sp. Pl. 153. 1753
Hedge or great bindweed

Calystegia Sepium, R. Br., l.c.

In thickets and waste places, along fence rows and roadsides. Doubtless in part native and attempts have been made to distinguish

between the indigenous and the introduced forms. Common in most sections of the State outside of the higher Adirondacks.

Doctor Greene (*Pittonia* 3: 382. 1898) attempts to distinguish the native form under the name of *Convolvulus americanus* (Sims) Greene (*C. Sepium* var. *americanus* Sims, Bot. Mag. pl. 732. 1804).

4 **Convolvulus repens** L. Sp. Pl. 153. 1753

Trailing hedge bindweed

Calystegia Sepium var. *maritima* G. Don, Gen. Syst. 4: 296. 1838

Calystegia pubescens Lindl. Bot. Reg. 42. 1846

Convolvulus Sepium var. *pubescens* Fernald, Rhodora 10: 55. 1908

On sandy banks and thickets, or in moist margins of marshes along or near the coast, especially on Long Island and Staten Island. Locally inland to Shushan, Washington county, Dobbin (N. Y. State Mus. Bul. 94: 21. 1905).

5 **Convolvulus arvensis** L. Sp. Pl. 153. 1753 Small bindweed

In fields and waste places, often along railroads and highways. Locally common in many sections of the State. Naturalized from Europe.

Family 17 **CUSCUTACEAE** Dumort, Anal. Fam. 20. 1829

Dodder family

CUSCUTA (Tourn.) L. Sp. Pl. 124. 1753*

Subgenus **Succuta**

Succuta Des Moulins, Etud. Org. Cusc. 74. 1853

Schrebera L. Sp. Pl. Ed. 2, 1662. 1763

Epithymum Opiz. Seznam 40. 1852

1 **Cuscuta epithymum** Murray, in L. Syst. ed 13, 140. 1774

Thyme dodder, lesser lucerne or clover dodder

C. Trifolii Bab. Phytol. 1: 467. 1843

Infrequent or rare in New York, and usually on clover. Introduced from Europe. Pecksport, Madison county, House 6567.

Cuscuta europaea L. Sp. Pl. 124. 1753. A very rare adventive in the United States, has not been reported from New York State.

2 **Cuscuta epilinum** Weihe, Arch. des Apothek. Nord. Deutschl.

8: 50-51. 1824

Flax dodder

C. densiflora Soyer-Willem. Act. Soc. Linn. Paris 4: 281. 1826

* Specimens in the state herbarium determined by Dr T. J. Yuncker. Arrangement adapted from Doctor Yuncker's monograph of genus *Cuscuta*, 1921

On flax (*Linum*) and like the host, introduced from Europe. Formerly rather frequent, but as the cultivation of flax has declined in this State, the flax-dodder is now rarely seen.

Subgenus *Grammica*

Grammica Loureiro, Fl. Cochinc. 1: 170. 1790
Lepidanche Engelm. Am. Jour. Sci. 43: 343. pl. 6. 1842
Engelmannia Pfeiffer, Bot. Zeit. 3: 673. 1845

3 *Cuscuta pentagona* Engelm. Am. Jour. Sci. 43: 340. pl. 6. f. 22-24. 1842
 Field dodder

C. arvensis Beyrich, in Hook. Fl. Bor. Am. 2: 77. 1838, as syn., without descr.
C. pentagona microcalyx Engelm., l.c. 45: 76. 1845
C. arvensis pentagona Engelm. Trans. St. Louis Acad. 1: 494. 1859

On various herbs and shrubs. Rare.

On *Aster linariifolius*, Cedarhurst, Long Island, *J. A. Bisky* (Torr. Club Bul. 14: 13. 1887). Rockland county, *C. F. Austin* (N. Y. State Mus. Rep't 23: 50. 1872).

4 *Cuscuta cephalanthi* Engelm. Am. Jour. Sci. 43: 336. pl. 6. f. 1-6. 1842

Button-bush dodder

C. tenuiflora Engelm. in Gray, Man. 350. 1848

On shrubs and tall herbs. Rare.

Union Springs, Cayuga lake, on *Mentha piperita*, *Dudley* (41st Rep't N. Y. State Mus. 57. 1888). Cayuga lake, *Wiegand*. Whitehall, Washington county, on *Aster* and *Salix*, *Peck*.

5 *Cuscuta coryli* Engelm. Am. Jour. Sci. 43: 337. pl. 6. f. 7-11. 1842
 Haxel dodder

C. compacta crenulata Choisy, in DC. Prodr. 9: 459. 1845
C. inflexa Engelm. Trans. St. Louis Acad. 1: 502. 1859
C. umbrosa Torrey, Fl. N. Y. 2: 99. 1843. Not Beyrich

On hazel and other shrubs and tall herbs. Rare but widely distributed across the State.

Western New York, *Gray, Engelmann* (Torrey, l.c.). Youngstown, Niagara county, 1864, *D. F. Day & G. W. Clinton*; Salamanca, Clinton (19th Rep't N. Y. State Mus. 200. 1866). Staten Island, *Burnham*. Washington county, *Burnham*. Ithaca, *Dudley*. Staten Island, Suffolk county and near Peekskill, *W. H. Leggett* (Torr. Club Bul. 2: 36. 1871). Long Beach, Nassau county, *House*.

6 *Cuscuta Gronovii* Willd. in R. & S. Syst. 6: 205. 1820

Goldthread vine

C. americana L. Sp. Pl. 124. 1753, in part
C. umbrosa Beyrich, in Hook., l.c. 78, in part

Var. *vulgivaga* Engelm. Trans. St Louis Acad. 1: 508. 1859

C. vulgivaga Engelm. Am. Jour. Sci. 43: 338. pl. 6. f. 12-16. 1842

C. polyantha Shuttlew. & *C. umbrosa* Engelm., in Trans. St Louis Acad. 1: 508. 1859, as syn.

On herbs and low shrubs. Occasional on Long Island and Staten Island. Increasingly common northward and westward across the State. The only common species of dodder in this State.

Var. *latifolia* Engelm. Trans. St Louis Acad. 1: 508. 1859. (*C. Saururi* Engelm. Am. Jour. Sci. 43: 339. pl. 6. f. 17-21. 1842), with calyx lobes nearly as long as or equalling the shallowly campanulate corolla, the lobes of which equal the tube, is known from New Jersey westward and southward, and is to be looked for in the southern part of New York.

7 *Cuscuta compacta* Juss.; Choisy, Mem. Soc. Phys. Genev. 9: 281. pl. 4. f. 2. 1841 Compact dodder

? *C. acaulis* Raf. Ann. Nat. 1: 13. 1820

C. remotiflora Bertoloni, Misc. Bot. 10: 29. 1842

Lepidanche adpressa Engelm. Am. Jour. Sci. 45: 77. 1843

On shrubs. Rare across the southern part of the State.

Lake Mohegan, Westchester county, *Leggett* (Torr. Club Bul. 2: 36. 1871). Tottenville, Staten Island, *Hollick & Britton* (Torr. Club Bul. 9: 150. 1882).

Family 18 **POLEMONIACEAE** DC. Fl. Fr. 3: 645. 1805

Phlox family

PHLOX L. Sp. Pl. 151. 1753

Armeria L.; Kuntze, Rev. Gen. Pl. 432. 1891

1 *Phlox paniculata* L., l.c.

Garden phlox

In woods and thickets and often along roadsides and persistent in old or neglected grounds. Native from Pennsylvania southward and westward. Naturalized northward to central and eastern New York.

In cultivation consisting of many races differing in leaf form, size and color of the flowers and in pubescence.

2 *Phlox maculata* L., l.c. 152

Wild sweet william

P. pyramidalis Sm. Exot. 2: 87. 1804

P. reflexa Sweet, Br. Fl. Gard. 232. 1823-29

P. penduliflora Sweet, l.c. Ser. II, 46. 1831-38

In moist woods and along streams. Frequent from southeastern New York southward and westward. Frequently cultivated and naturalized or escaped northward to Essex county and westward to Lewis county and Lake Erie.

Var. **candida** Michx. Fl. Bor. Am. 1: 143. 1803

P. suaveolens Ait. Hort. Kew. 1: 206. 1789

A race with white or very pale blue flowers and unspotted stems, often occurring with the typical form of the species, or sometimes alone.

3 **Phlox divaricata** L., l.c. 152

Wild blue phlox

P. americana Sweet, Br. Fl. Gard. 221. 1823-29

P. glutinosa Buckl. Am. Jour. Sci. 45: 177. 1844

In moist or rocky woods. Frequent or locally common across the State outside of and chiefly south of the Adirondacks, southward to Greene and Ulster counties and westward to Lake Erie, but apparently absent from most sections of the Delaware, Susquehanna and Chemung watersheds in New York. Forma **albiflora** forma nova, with white flowers. Near Adams, Jefferson county, *House*.

4 **Phlox subulata** L. Sp. Pl. 152. 1753

Ground or moss pink

In dry sandy or rocky soil. Frequent or occasional on the south side of Long Island, on Staten Island and in Van Cortlandt Park, elsewhere rare northward to the Hudson highlands. Locally abundant northward across the State outside of the higher mountains, chiefly as an escape from cultivation and often a common plant in old or neglected cemeteries, where if the soil is sandy or sterile it spreads rapidly.

Forma **candidula** *House*, with white flowers, occurs rarely.

Phlox pilosa L., l.c. occurs in northern New Jersey and at one locality in Connecticut, but has not been reported from New York.

GILIA R. & P. Prodr. Fl. Per. 47. 1798

There are no native species of this genus in New York. **Gilia rubra** (L.) Heller (*Gilia coronopifolia* Pers.), of the middle western states is reported as an escape from cultivation in Westchester county. **Gilia achillaefolia** Benth., and **Gilia capitata** Dougl., natives of the Pacific coast states, have been collected as waifs near New York City.

POLEMONIUM (Tourn.) L. Sp. Pl. 162. 1753

1 **Polemonium Vanbruntiae** Britton, Torr. Club Bul. 19: 224. 1892

American Jacob's ladder

P. coeruleum Gray, Man. ed. 4, App. xcvi. 1863. Not L., 1753

In swamps and along streams. Rare or local from Ulster and Delaware counties westward to Schoharie, Chenango, Tioga, Herkimer and Madison counties.

Borders of marsh, 3 miles east of Charlotteville, Schoharie county, *E. C. Howe* (Gray, l.c. & Torr. Club Bul. 26: 251. 1899). Delaware county, near Delhi, *B. D. Gilbert*; Meredith, Delaware county, *Gilbert* (Paine, Cat. Pl. Oneida Co. 188., 115. 1865). Abundant in alder swamps and bogs, McDonough and Preston, Chenango county, *Coville* (Torr. Club Bul. 12: 53. 1885). Balsam lake, Ulster county, *Mrs Van Brunt* (Torr. Club Bul. 15: 328. 1888). Herkimer county, *Clinton*. Tioga near Apalachin, *C. D. Fretz*. Warren, Herkimer county, *House*. Peterboro, Madison county, *House*.

2 **Polemonium reptans** L. Syst. ed. 10, No. 1. 1759

Greek valerian, bluebell

In woods. Infrequent in southern and western New York.

Tioga county, *Millsbaugh* (Torr. Club Bul. 14: 184. 1887). Cattaraugus county, *Bradley* (Torrey, Fl. N. Y. 2: 94. 1843). Sparingly in the Susquehanna valley and Chemung valley, *Clute* (Fl. Upper Susquehanna 76. 1898). Near Log pond, Caledonia, Livingston county, *Vollertsen & Beckwith* (Proc. Rochester Acad. 5: 92. 1917). Buffalo, *Day* (Pl. Buffalo 59. 1883).

COLLOMIA Nutt. Gen. 1: 126. 1818

Collomia linearis Nutt., l.c.

Narrow-leaved collomia

Gilia linearis Gray, Proc. Am. Acad. 7: 223. 1882

Navarretia linearis Kuntze, Rev. Gen. Pl. 2: 432. 1891

Lime Lake, Cattaraugus county, *F. E. Fenno* (53d Rep't N. Y. State Mus. 837. 1900). Perhaps adventive from the West.

Family 19 **HYDROPHYLLACEAE** Lindl. Nat. Syst. ed. 2, 271.
1836

Waterleaf family

HYDROPHYLLUM (Tourn.) L. Sp. Pl. 146. 1753

1 **Hydrophyllum virginianum** L., l.c.

Virginia waterleaf

In moist woods and thickets, sometimes in open places. Frequent or common across the State northward. Less frequent south of the Hudson highlands and rare on Staten Island. Reported from Long Island.

2 **Hydrophyllum appendiculatum** Michx. Fl. Bor. Am. 1: 134.
1803

Appendaged waterleaf

H. trilobum Raf. Fl. Ludov. 33. 1817

Nemophila paniculata Spreng. Syst. 1: 569. 1825

Decemium hirtum Raf. Med. Fl. 2: 215. 1820

In woods, usually near or along streams. Rare from Oneida county westward.

Flats of the Mohawk river near Utica, *Miss J. E. Johnson*; Parma, Monroe county, *Bradley* (Paine, Cat. Pl. Oneida Co. 114. 1865). Greece and near Rochester, Monroe county (Proc. Rochester Acad. Sci. 3: 86. 1896).

3 *Hydrophyllum canadense* L. Syst. ed. 10, 919. 1759

Broad-leaved waterleaf

In woods, usually in rich moist soil, or sometimes in moist soil along streams. Frequent or somewhat local across the State northward outside of the higher Adirondacks and southward to the Hudson highlands. Very rare in the Hudson valley and also in the Delaware and Susquehanna watersheds. Increasingly frequent in central New York and the highlands of central and western New York, westward to Lake Erie.

NYCTELEA Scop. Introd. 775. 1777.

Macrocalyx Trew. Act. Nat. Cur. 2: 330-332. pl. 7. f. 1. 1761. Hyponym. *Ellisia* L. Sp. Pl. Ed. 2, 1662. 1763. Not P. Br. 1756, not L. Syst. ed. 10, 1759

Nyctelea Nyctelea (L.) Britton; Britton & Brown, Illus. Fl. ed. 2, 3: 67. 1913 *Nyctelea*

Ipomoea Nyctelea L. Sp. Pl. 160. 1753

Polemonium Nyctelea L. Sp. Pl. ed. 2, 231. 1762

Ellisia Nyctelea L., l.c., 1662. 1763

E. ambigua Nutt. Gen. 1: 118. 1818

Macrocalyx Nyctelea Kuntze, Rev. Gen. Pl. 2: 434. 1891

Chiefly south and west of our borders, but reported by *Taylor* (Fl. Vic. N. Y. 519. 1915), from Port Washington, near New York City.

PHACELIA Juss.; J. F. Gmel. Syst. 330. 1791

Phacelia dubia (L.) Trelease; in Trelease, Branner & Coville, Ann. Rep't Geol. Surv. Ark. 1888, 4: 205. 1891

Small-flowered phacelia

Polemonium dubium L. Sp. Pl. 163. 1753

Phacelia parviflora Pursh, Fl. Am. Sept. 140. 1814

In moist soil, Jamesville, Onondaga county, *Mrs L. L. H. Goodrich* (Torreya 3: 191. 1903; N. Y. State Mus. Bul. 94: 40. 1905; 75: 19. 1904).

Family 20 **BORAGINACEAE** Lindl. Nat. Syst. ed. 2, 274. 1836

Ehretiaceae Schrad. Diss. Asperif. 20. 1820

Borage family

HELIOTROPIUM (Tourn.) L. Sp. Pl. 130. 1753

- 1 **Heliotropium europaeum** L., l.c. European heliotrope
In waste places, especially about New York City and rarely elsewhere. Adventive or naturalized from Europe.
- 2 **Heliotropium curassavicum** L., l.c. Seaside heliotrope
Rare as a ballast weed about New York City. Native on sandy seashores from Delaware southward.
- 3 **Heliotropium indicum** L., l.c. 134 Indian heliotrope
Occasional as a ballast weed about New York City. Native of Asia.
- 4 **Heliotropium peruvianum** L. Sp. Pl. ed. 2, 187. 1762
Peruvian heliotrope
Rare as a ballast weed near New York City. Native of South America.

CYNOGLOSSUM (Tourn.) L. Sp. Pl. 134. 1753

- 1 **Cynoglossum officinale** L., l.c. Hound's tongue, gipsy flower
In fields and waste places. Frequent or abundant in most sections of the State. Naturalized from Europe.
- 2 **Cynoglossum boreale** Fernald, *Rhodora* 7: 250. 1905
Northern wild comfrey
C. virginianum Torr. Fl. N. Y. 2: 89. 1843, as to N. Y. plant. Not L. 1753
Woods and banks. Frequent or local across the State northward, but not reported from the Adirondacks.
West Fort Ann, Washington county, *Burnham* (N. Y. State Mus. Bul. 116: 23. 1907). Vernon, Oneida county, *Douglass, Kneiskern*; Yates county, *Sartwell*; Greece, Monroe county, *Bradley* (Paine, Cat. Pl. Oneida Co. 114. 1865). Springwater, Livingston county, *Matthews & White* (Proc. Rochester Acad. 5: 92. 1917). Several localities in Tompkins county, not common, *Dudley* (Cayuga Fl. 64. 1886).
- 3 **Cynoglossum virginianum** L. Sp. Pl. 134. 1753
Southern wild comfrey
C. amplexicaule Michx. Fl. Bor. Am. 1: 132. 1803
Reported from, but doubtful, on Long Island, *Taylor*.

LAPPULA (Rivin.) Moench, Meth. 416. 1794

Echinospermum Sw.; Lehm. Asperif. 113. 1818
Hackelia Opiz; Berchtold, Fl. Boehm. 2²; 146. 1839
Cynoglossospermum [Siegesb. 1736] Kuntze, Rev. Gen. Pl. 436. 1891

1 **Lappula Lappula** (L.) Karst. Deutsch. Fl. 979. 1882
 European stickseed, burseed

Myosotis Lappula L. Sp. Pl. 131. 1753
L. echinata Gilib. Fl. Lithuan. 1: 25. 1781
L. myosotis Moench, l.c. 417
E. Lappula Lehm., l.c. 121
Rochelia Lappula R. & S. Syst. 4: 109
C. Lappula Kuntze, l.c.

In waste places and in old fields. Frequent or common in most parts of the State. Naturalized from Europe.

2 **Lappula virginiana** (L.) Greene, Pittonia 2: 182. 1891
 Virginia stickseed

Myosotis virginiana L. Sp. Pl. 131. 1753
E. Morisoni DC. Prodr. 10: 155. 1846
E. virginicum Lehm., l.c. 120
Rochelia virginiana R. & S., l.c. 108
C. virginicum Kuntze, l.c.
Hackelia virginiana Johnston, Contr. Gray Herb. 68: 45. 1923

In dry woods and thickets. Frequent or common across the State outside of the higher Adirondacks, and southward to the north side of Long Island and on Staten Island.

MERTENSIA Roth, Catal. Bot. 1: 34. 1797

Cerinthodes [Ludwig, 1737] Kuntze, Rev. Gen. Pl. 436. 1891

Mertensia virginica (L.) Link, Handb. 1: 580. 1829
 Virginia cowslip, tree lungwort, roanoke bells

Pulmonaria virginica L. Sp. Pl. 135. 1753
M. pulmonarioides Roth, l.c.
Pneumaria virginica Hill, Veg. Syst. 7: 40. 1764
Cerinthodes virginicum Kuntze, l.c.

In low meadows and in rich alluvial soil, in shaded or open places along streams, central New York south to Tioga county and westward. Infrequent or rare along the eastern part of its range in Oneida, Chenango, Otsego and Tioga counties. Recorded from near Albany by *Eaton*, but not since collected in the eastern part of the State.

Pneumaria maritima (L.)^{*} Hill (*Mertensia maritima* (L.) S.F. Gray), has been reported from Long Island, but definite records of its occurrence there are lacking.

AMSINCKIA Lehm. Del. Sem. Hort. Hamb. 7. 1831

Amsinckia intermedia Fisch. & Mey. Ind. Sem. Hort. Petrop. 2: 26. 1836

Adventive on eastern Long Island and on Nantucket Island. Native of the western states. Other species of this genus have been reported as waifs in the eastern states and may be looked for in this State.

ASPERUGO (Tourn.) L. Sp. Pl. 138. 1753

Asperugo procumbens L., l.c. German madwort, catchweed

In waste places and on ballast on Long Island and Staten Island, rarely elsewhere. Native of Europe.

MYOSOTIS (Dill.) L. Sp. Pl. 131. 1753

1 *Myosotis scorpioides* L., l.c. Mouse-ear scorpion grass

M. scorpioides var. *palustris* L., l.c.

M. palustris Lam. Fl. Franc. 2: 283. 1778

In brooks and marshes. Frequent or locally common in many parts of the State. Native of Europe and Asia. Often found far from any habitations.

2 *Myosotis laxa* Lehm. Asperif. 83. 1818

Smaller forget-me-not

In wet muddy or marshy places. Infrequent or locally common northward in the State. Rare southward.

3 *Myosotis sylvatica* Hoffm. Deutsch, Fl. 61. 1791

Garden forget-me-not

Native of Europe. Common in cultivation and sometimes persistent or occasional as an escape.

4 *Myosotis arvensis* (L.) Hill, Veg. Syst. 7: 55. 1764

Field scorpion grass

M. scorpioides var. *arvensis* L. Sp. Pl. 131. 1753

In fields, especially in sandy or rocky places. Locally common, chiefly as a weed in northern and western New York, outside of the Adirondacks, and also near New York City, where perhaps not native.

5 *Myosotis versicolor* (Pers.) J. E. Smith, Engl. Bot. 7: t. 480. 1798—36: pl. 2558. 1814 Yellow or blue scorpion grass

M. arvensis var. *versicolor* Pers. Syn. 1: 156. 1805

In fields and along roadsides. Infrequent or rare in southern New York, near Rochester and a few other localities. Naturalized from Europe.

- 6 **Myosotis micrantha** Pall.; Lehm. Neue Schr. Naturf. Ges. Halle
3²: 24. 1817 Blue scorpion grass

Fields and roadsides. A rare adventure in a few widely separated localities in this State. Native of Europe.

- 7 **Myosotis virginica** (L.) B.S.P. Prel. Cat. N. Y. 37. 1888
Spring or early scorpion grass

Lycopsis virginica L. Sp. Pl. 139. 1753

Myosotis verna Nutt. Gen. 2: Add. 1818

M. arvensis Torr. Fl. N. Y. 2: 88. 1843 (excl. synonymy)

On dry hills and banks. Frequent or occasionally common across the State outside of the Adirondacks and south to the north shore of Long Island and rare on Staten Island. Not reported from the south side of Long Island.

LITHOSPERMUM (Tourn.) L. Sp. Pl. 132. 1753

Section Rhytispermum

- 1 **Lithospermum arvense** L., l.c. Bastard alkanet, corn gromwell

In waste places and in fields, rarely in woods. Frequent or common in most sections of the State. Naturalized from Europe.

Section Eulithospermum

Cyphorina Raf. Am. Mo. Mag. 4: 191. 1819

- 2 **Lithospermum officinale** L., l.c. Gromwell

In fields and waste places. Infrequent or rare, but widely distributed across the State. Naturalized from Europe.

- 3 **Lithospermum latifolium** Michx. Fl. Bor. Am. 1: 131. 1803
American gromwell

Cyphorina latifolium Raf., l.c.

C. lutca Raf. Cat. 13. 1824

L. lutescens N. Coleman, Cat. Pl. Grand Rapids, 29. 1874

L. luteum House, N. Y. State Mus. Bul. 243-244: 61. 1923

In dry thickets, fields and open woods. Infrequent or rare in the western part of the State.

Yates county, *Sartwell*; Scottsville, Monroe county, *Holzer* (Paine, Cat. 113. 1865). Scottsville, *Beckwith*; Rochester, *Booth* (Proc. Rochester Acad. 3: 87. 1896; 5: 24. 1910); Ludlowville, Tompkins county, *Lord*; Salmon creek ravine, *Dudley*; Fall Creek, Ithaca, *Hine* (Dudley, Cayuga Fl. 65. 1886). Erie county, *Day* (Pl. Buffalo 59. 1883).

Section Batschia

Batschia Gmel. Syst. 2¹: 315. 1791

- 4 **Lithospermum caroliniense** (Walt.) MacM. Metasp. Minn. 438.
1892 Hairy or Gmelin's puccoon

Anonymos carolinensis Walt. Fl. Car. 91. 1788

Batschia carolinensis Gmel., l.c.

L. carolinianum Lam. Tabl. Encycl. 1: 357. 1791

B. Gmelini Michx. Fl. Bor. Am. 1: 130. 1863

L. hirtum Lehm. Asperif. 305. 1818

L. Gmelini Hitchc. Spring Fl. Manh. 30. 1894

In dry woods. Infrequent in western New York.

Sandy hills near Irondequoit bay, Penfield, Monroe county, *Holzer*, *Booth* (Paine, Cat. 113. 1865). Brighton, *Fish*; Fairport, *Macaulley* (Proc. Rochester Acad. 3: 87. 1896). Batavia and shores of Lake Erie, *Day* (Pl. Buffalo 59. 1883).

- 5 **Lithospermum canescens** (Michx.) Lehm. Asperif. 305. 1818
Hoary puccoon

Batschia canescens Michx., l.c. pl. 14

Anchusa canescens Muhl. Cat. 19. 1813

B. conspicua R. Br., Richards. in Frankl. Jour. App. 732. 1824

In dry soil. Rare in northern New York westward to Lake Erie.

Jonesville, Saratoga county, *L. Collins*; Auburn, *Hall* (Paine, Cat. Pl. Oneida Co. 114. 1865). Northern part of the State, *Hadley* (Torrey, Fl. N. Y. 2: 86. 1843).

ONOSMODIUM Michx. Fl. Bor. Am. 1: 132. 1803

- 1 **Onosmodium virginianum** (L.) DC. Prodr. 10: 70. 1846
Virginia false gromwell

Lithospermum virginianum L. Sp. Pl. 132. 1753

O. hispidum Michx., l.c.; Torrey, Fl. N. Y. 2: 84. 1843

Purshia hispida Spreng.; Lehm. Asperif. 382. 1818

In dry thickets or on hillsides. Infrequent or rare.

Saratoga county, *Collins*; Herkimer, *Gray*; Vernon, Oneida county, *Kneiskern*; Seneca lake, *Sartwell* (Paine, Cat. 113. 1865). Karner, Albany county, *Beck*; *Peck*.

- 2 **Onosmodium hispidissimum** Mackenzie, Torr. Club Bul. 32:
500. 1905 Shaggy false gromwell

O. carolinianum of N. Y. reports, Not A. DC.

In dry fields, thickets, open woods and on banks. Frequent or local across the State outside of and chiefly south and west of the Adirondack region.

SYMPHYTUM (Tourn.) L. Sp. Pl. 136. 1753

- 1 **Symphytum officinale** L., l.c. Comfrey

In waste places, old fields, roadsides, etc. Not uncommon in most sections of the State as a weed. Naturalized from Europe.

- 2 **Symphytum asperum** Lepechin, Nov. Act. Acad. Petrop. 14: 444.
t. 7. 1805 Rough comfrey

S. asperrimum Donn.; Sims. Bot. Mag. 24: pl. 929. 1806

In waste places. Infrequent or occasional. Adventive or naturalized from Europe.

Occasional, *Taylor* (Fl. Vic. N. Y. 524. 1915). Chili, Monroe county, *Mrs McGuire*; near Greece, Monroe county (Proc. Rochester Acad. 3: 87. 1896; 50th Rep't N. Y. State Mus. 95. 1897). Buffalo, *G. W. Clinton*.

BORAGO (Tourn.) L. Sp. Pl. 137. 1753

Borago officinalis L., l.c.

Borage

In waste places. Rather rare in most sections of the State, usually as an escape from gardens, and apparently not long persistent. Native of southern Europe.

NONEA Medic. Phil. Bot. 1: 31. 1789

Nonea vesicaria (L.) Reichenb., and **Nonea lutea** (Desr.) DC., both natives of Europe, have been reported as casual waifs in Southern New York.

LYCOPSIS L. Sp. Pl. 138. 1753

Lycopsis arvensis L., l.c. 139

Small bugloss

In fields and waste places. Rare but widely distributed throughout the State. Naturalized from Europe.

Washington county, *Stevenson* (Torrey, Fl. N. Y. 2: 87. 1843). Shore and waste ground at Oswego, *Paine* (Cat. Pl. Oneida Co. 113. 1865). Ballast at Stapleton, Staten Island, *Hollick & Britton* (Torr. Club Bul. 13. 84. 1886). Rochester, *Lennon* (Proc. Rochester Acad. 3: 87. 1896). Oswego, *C. S. Sheldon*.

ECHIUM (Tourn.) L. Sp. Pl. 139. 1753

Echium vulgare L., l.c.

Viper's bugloss, bluedweed

In fields and waste places. Common in many parts of the State. Naturalized from Europe.

Said to have been rare in 1843 by Torrey (Fl. N. Y.) ; and Paine, in 1865, gives but two localities (Rockland county and Schenectady). Appeared in Venice, Cayuga county in 1884 according to Dr Chas. Atwood. Noted as rare about Rochester in 1896. However within the past two decades it has spread with great rapidity, especially on dry, sterile, stony or sandy soils. Forma **albiflorum** (G. Don) comb. nov. (var. *albiflorum* G. Don, Gen. Syst. 4: 332. 1838), with white corollas, collected in the Catskill mountains, *Peck*.

Echium plantagineum L., has been collected as a waif near New York City.

Family 21 **VERBENACEAE** J. St. Hil. Expos. Fam. 1: 245. 1805

Vervain family

VERBENA (Tourn.) L. Sp. Pl. 18. 1753

1 **Verbena officinalis** L., l.c. 20

European vervain, herb-of-the-cross

V. spuria L.; Torr. Fl. N. Y. 2: 52. 1843

In waste and cultivated grounds. Locally rare as a weed in southern and eastern New York. Naturalized from Europe.

2 *Verbena urticifolia* L., l.c. 20

White or nettle-leaved vervain

In fields and waste places, often in low or open woods. Common throughout the State. Indigenous although often appearing as though adventive.

3 *Verbena hastata* L., l.c. 20

Blue or false vervain

V. pinnatifida Lam. Tabl. Encycl. 1: 57. 1791

In moist or low wet fields, meadows, shores and often in waste places. Common throughout the State.

According to Farwell (Rep't Mich. Acad. Sci. 2: 60. 1901), typical *V. hastata* has leaves 3-cleft at the base. Var. *paniculata* (Lam.) Farwell, l.c. (*V. paniculata* Lam. Encycl. 8: 548. 1808), is the common form in this State, with all the leaves entire or but rarely the lower ones slightly lobed at the base.

Var. *oblongifolia* Nutt. Gen. 2: 40. 1818

V. urticaefolia riparia Britton, Torr. Club Mem. 5: 276. 1894

V. riparia Raf.; Small & Heller, Torr. Club Mem. 3: 12. 1892

Flowers smaller in filiform panicles, but bluish with purplish tubes. The leaves occasionally three-cleft. Infrequent or rare, and probably an intermediate or hybrid between *V. hastata* and typical *V. urticaefolia*.

A hybrid between *V. hastata* var. *paniculata* and *V. urticaefolia*, occurs at Trenton Falls, *Peck*; Freeville, *Peck*; and Oneida lake, *House*.

4 *Verbena angustifolia* Michx. Fl. Bor. Am. 2: 14. 1803

Narrow-leaved vervain

In dry fields. A somewhat rare or local weed, probably adventive from farther south, although its range is usually given as eastward to Massachusetts.

Kingsbridge, *Leggett*; Croton Point, *Bicknell* (Torr. Club Bul. 8: 130. 1881). Verplanck's Point, Westchester county, *F. J. H. Merrill* (Torr. Club Bul. 13: 6. 1886). Machias, Cattaraugus county, *F. E. Fenno*.

5 *Verbena stricta* Vent. Descr. Pl. Jard. Cels. pl. 53. 1800

Hoary or mullein-leaved vervain

V. rigens Michx. Fl. Bor. Am. 2: 14. 1803

In dry soil. Infrequent or rare, and adventive from the middle western states.

Granville, Washington county, *E. T. Pember* (N. Y. State Mus. Bul. 157: 36. 1912). Irondequoit, *Bishop*; Pittsford, *Boughton* Proc. Rochester Acad. 5: 92. 1917).

6 **Verbena bracteosa** Michx. Fl. Bor. Am. 2: 13. 1803

Large-bracted vervain

In fields, waste ground and along railroads. Infrequent or locally abundant. Adventive or naturalized from the middle western states.

Family 22 **LAMIACEAE** Lindl. Nat. Syst. ed. 2, 275. 1836

(*Labiatae* B. Juss. Hort. Trien. 1759)

Mint family

AJUGA L. Sp. Pl. 561. 1753

1 **Ajuga repens** L., l.c.

Bugle

In fields and along roadsides and in waste ground. Infrequent or rare. Naturalized from Europe.

Remsen, Oneida county, *Peck* (N. Y. State Mus. Bul. 122: 17. 1908). Canandaigua, *Mrs E. O. Cartwright* (Proc. Rochester Acad. 5: 92. 1917). Saratoga Springs, *Mrs O. P. Phelps*.

2 **Ajuga genevensis** L., l.c.

Erect bugle

In fields and waste places. Rare and local in the eastern and southeastern sections of the State. Adventive from Europe.

TEUCRIUM (Tourn.) L. Sp. Pl. 562. 1753

1 **Teucrium canadense** L., l.c.

American germander or wood sage

T. virginicum L., l.c.

In moist thickets or along marshes and in low meadows. Recorded by Taylor, as occasional on Long Island. Infrequent in the Hudson valley, more common northward and westward across the State outside of the higher Adirondacks.

Forma **albiflorum**, forma nova, with white corollas, Watkins, *C. S. Sheldon*, 1885.

2 **Teucrium littorale** Bicknell, Torr. Club Bul. 28: 169. 1901

Seaside or narrow-leaved germander

In low moist thickets and open places, mostly near the coast of Long Island and Staten Island, and northward to Yonkers on the Hudson river.

3 **Teucrium occidentale** A. Gray, Syn. Fl. 2¹: 349. 1878

Hairy germander

T. boreale Bicknell, Torr. Club Bul. 28: 171. 1901

T. occidentale var. *boreale* Fernald, *Rhodora* 10: 85. 1908

In moist soil, sometimes in rather dry soil, thickets, along streams, borders of marshes, streams and ponds and similar situa-

tions. Frequent or common across the State from Lake Champlain to the St Lawrence river and Lake Erie, southward to Orange and Dutchess county.

ISANTHUS Michx. Fl. Bör. Am. 2: 3. pl 30. 1803

Isanthus brachiatus (L.) B. S. P., Prel Cat. N. Y. 44. 1888

False pennyroyal

Trichostema brachiatum L. Sp. Pl. 598. 1753

Isanthus coeruleus Michx., l.c.

In sandy or rocky soil. Infrequent or rare northward from Rensselaer, Saratoga and Albany counties southward to the Hudson highlands and westward.

Catskill mountains, *Taylor* (Fl. Vic. N. Y. 529. 1915). New Paltz, *J. Carey* (in Sartwell herbarium). Common on the Hudson, from highlands upward; banks of Erie canal between Albany and Schenectady, *Kneiskern*; Jefferson county, *Crawe* (Torrey, Fl. N. Y. 2: 55. 1843). Above Cohoes falls, *Gray* (Paine, Cat. Pl. Oneida Co. 110. 1865). Troy, *E. C. Howe*. Glenmont, Albany county, *House*.

TRICHOSTEMA (Gronov.) L. Sp. Pl. 598. 1753

1 *Trichostema dichotoma* L., l.c.

Blue curls, bastard pennyroyal

In dry, usually sandy fields or rocky places. Common in southern New York, on Long Island and Staten Island and northward in Westchester county. Locally northward to Rensselaer, Saratoga, Oneida and St Lawrence counties, and westward to Tioga and Tompkins counties. Sometimes occurs with corollas of a pink color.

2 *Trichostema lineare* Walt. Fl. Car. 164, 1788.—Nutt. Gen. 2: 39. 1818

Narrow-leaved blue curls

In sandy fields and dry pine-barrens. Infrequent or rare on Long Island and Staten Island.

SCUTELLARIA (Rivin.) L. Sp. Pl. 598. 1753

1 *Scutellaria lateriflora* L., l.c.

Mad dog, blue skullcap

In wet places. Common throughout the State, except in the pine-barrens of Long Island.

Forma *albiflora* (Farwell) Fernald, with white corollas, at North Greenbush, Rensselaer county, *Peck*.

2 *Scutellaria serrata* Andr. Bot. Rep. pl. 494. 1809

Showy skullcap

In woods. Rare in southern New York. Reported from Woodlawn, New York City, *Taylor* Fl. Vic. N. Y. 530. 1915).

3 *Scutellaria pilosa* Michx. Fl. Bor. Am. 2: 11. 1803

Hairy skullcap

S. pubescens Muhl. Trans. Am. Phil. Soc. (1). 3: 173 (name only) 1793.

S. ovalifolia Pers. Syn. 2: 136. 1807

S. nemorosa Raf. Am. Mo. Mag. 2: 120. 1817

S. hirsuta Short, Transyl. Jour. Med. 8: 582. 1836

In dry sandy woods and thickets. Rare in the southeastern part of the State.

Torrey (Fl. N. Y. 2: 70. 1843). Brooklyn, *J. Carey*, June 30, 1842 (Sartwell herbarium). Long Island and Staten Island (Torr. Club Bul. 2: 30. 1871). Jerome Park, New York City, *Bicknell* (Torr. Club Bul. 7: 53. 1880).

4 *Scutellaria integrifolia* L. Sp. Pl. 599. 1753

Larger or hyssop skullcap

S. hyssopifolia L., l.c.

S. caroliniana Lam. Encycl. 7: 706. 1806

S. integrifolia var. *hyssopifolia* Eaton, Man. ed. 2, 433. 1818

Infrequent or rare on Long Island, Staten Island and northward into Westchester county.

5 *Scutellaria parvula* Michx. Fl. Bor. Am. 2: 11. 1803

Small skullcap

S. ambigua Nutt. Gen. 2: 37. 1818

S. parvula var. *mollis* A. Gray, Syn. Fl. 2¹: 380. 1878

S. campestris Britton, Torr. Club Mem. 5: 283. 1894

S. parvula var. *ambigua* Fernald, Rhodora 3: 201. 1901

In sandy soil, northern New York and along the Great Lakes. Also reported from Long Island.

Hempstead, Long Island (Torrey 6: 213. 1906). St. Lawrence river, *Macrae* (in Sartwell herbarium). Shore of Lake Ontario, *Gray* (Paine, Cat. Pl. Oneida Co. 112. 1865). Near Buffalo, *Aiken* (Torrey, Fl. N. Y. 2: 71. 1843). Sodus bay, *Fish*; Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 95. 1896). Vaughns, Washington county, *Burnham*.

6 *Scutellaria galericulata* L. Sp. Pl. 599. 1753

Hooded, marsh or European skullcap

S. epilobiifolia A. Hamilton, Mon. Gen. Scut. 32. 1832

In swamps, marshes and along streams. Frequent or common throughout the State, except the pine-barrens of Long Island, where it is lacking. White-flowered (forma *albiflora* Millsp.) and pink-flowered (forma *rosea* Rand & Redfield) forms, are sometimes seen.

7 *Scutellaria nervosa* Pursh, Fl. Am. Sept. 412. 1814

Veined skullcap

S. teucrifolia J. E. Smith in Rees' Cyclop. 32: No. 15. 1816*S. gracilis* Nutt. Gen. 2: 37. 1818

In moist woods and thickets in southeastern New York. Rare.
Near Poughkeepsie, *J. Carey* (Torrey, Fl. N. Y. 2: 72. 1843).

MARRUBIUM (Tourn.) L. Sp. Pl. 582. 1753

Marrubium vulgare L., l.c.

White or common hoarhound

Infrequent or locally abundant, chiefly in waste places, roadsides,
old fields, rocky woods, etc. Naturalized from Europe.

AGASTACHE Clayton; Gronovius, Fl. Virg. 88. 1762

Vleckia Raf. Med. Repos. (II) 5: 308. 1808*Lophanthus* Benth. Bot. Reg. 15: under *pl.* 1282. 1829. Not Adams. 17631 *Agastache nepetoides* (L.) Kuntze, Rev. Gen. Pl. 511. 1891

Catnep giant hyssop

Hyssopus nepetoides L. Sp. Pl. 569. 1753*L. nepetoides* Benth., l.c.*Vleckia nepetoides* Raf. Fl. Tellur. 3: 89. 1837

In woods and thickets, often in open places. Infrequent or locally
abundant across the State outside of the Adirondacks.

Rare on the north side of Long Island, unknown from the south
side; rare on Staten Island, increasing northward but not common,
Taylor (Fl. Vic. N. Y. 531. 1915). Westport, Essex county,
Stephens; Schenectady county, *Paige*, Fairfield, Herkimer county,
Hadley; Oneida county, *Kneiskern*; Bridgewater, *Gray* (Paine,
Cat. Oneida Co. 112. 1865). Banks of Genesee river, *Fish*;
LeRoy, *Howard*; Wayne county, *Hankenson* (Proc. Rochester
Acad. 3: 94. 1896). DeKalb, St Lawrence county, *Mrs O. P.*
Phelps. Jamesville, Onondaga county, *House*. Collins, Erie county,
Dr Anna E. Perkins. Scarce in Tompkins county. *Dudley* (Cayuga
Fl. 73. 186).

2 *Agastache scrophulariaefolia* (Willd.) Kuntze, l.c.

Figwort giant hyssop

Hyssopus scrophulariaefolius Willd. Sp. Pl. 3: 48. 1801*L. scrophulariaefolius* Benth., l.c.*Vleckia schrophulariaefolia* Raf., l.c.

In woods and thickets. Infrequent or rare throughout most sec-
tions of the State outside of the higher Adirondacks. Of about the
same range and abundance as the preceding species, although there
are fewer northern records.

Var. *mollis* (Fernald) Heller, with stems and lower surfaces of
leaves densely villous, appears to be more frequent southward and
westward.

- 3 **Agastache anethiodora** (Nutt.) Britton; Britton & Brown, Illus. Fl. 3: 85. 1898 Fragrant giant hyssop

Hyssopus anethiodorus Nutt. in Fraser's Cat. 1813
Stachys Foeniculum Pursh, Fl. Am. Sept. 407. 1814
H. anisatus Nutt. Gen. 2: 27. 1818
Lophanthus anisatus Benth. Bot. Reg. t. 1282. 1829
Vleckia anisata Raf., l.c. 89
V. anethiodora Greene, Torr. Club Mem. 5: 282. 1894
A. Foeniculum Kuntze, l.c. 511

Thickets along edge of a woodland road near Newcomb, Essex county, *House*. Native from Illinois to Manitoba, Alberta and Colorado, and apparently naturalized or escaped from cultivation at the above mentioned locality.

- 4 **Agastache urticifolia** (Benth.) Kuntze, l.c. Western giant hyssop

Lophanthus urticifolius Benth. Bot. Reg. under t. 1282. 1829
Vleckia urticaefolia Raf., l.c. 89; Holzinger, Contr. U. S. Nat. Herb. 3: 246. 1895

Roadsides near Wells, Hamilton county, *Peck* (N. Y. State Mus. Bul. 75: 22. 1904), and state herbarium, as *A. scrophulariacfolia*. Native from Montana and Colorado to California and British Columbia. Doubtless escaped from cultivation at the above locality.

NEPETA (Rivin.) L. Sp. Pl. 570. 1753

- 1 **Nepeta Cataria** L., l.c. Catmint, catnep

Glecoma Cataria Kuntze, Rev. Gen. Pl. 519. 1891

In waste places. Frequent or common in many sections of the State. Naturalized from Europe.

- 2 **Nepeta grandiflora** Bieb. Fl. Taur. Cauc. 2: 42. 1806

In waste ground. Established near Menands, Albany county. *Peck* (41st Rep't N. Y. State Mus. 57. 1888) doubtless as an escape.

GLECOMA L. Sp. Pl. 578. 1753

- Glecoma hederacea** L., l.c. Ground ivy, gill-over-the-ground

Nepeta Glecoma Benth. Lab. Gen. & Sp. 485. 1834
N. hederacea Trevisan, Prosp. Fl. Eug. 26. 1842

In waste places, woods and thickets and in cultivated and neglected grounds. Common in nearly all sections of the State except the higher mountains and the pine-barrens. Naturalized from Europe.

Var. *parviflora* (Benth.) House, N. Y. State Mus. Bul. 243-244: 37. 1923

Nepeta Glecoma var. *parviflora* Benth., l.c.

G. heterophylla Opiz, in *Natural*, 7: 61. 1824

G. intermedia Schrader; Benth. in DC. Prodr. 12: 391. 1848

Corollas scarcely more than twice as long as the calyces, which are shorter than in the typical form. Leaves also smaller and less pubescent, the stems glabrous or minutely pubescent. Oneida, Madison county, House. Doubtless elsewhere.

PRUNELLA L. Sp. Pl. 600. 1753

Prunella vulgaris L., l.c. Self-heal, Heal-all

In fields, woods and waste places. Common in practically all sections of the State. Supposed to be in part native and also largely naturalized from Europe. For varieties and forms, see Fernald (Rhodora 15: 179-186. 1913).

RUYSCHIANA (Boerh.) Mill. Gard. Dist. 4th. Abr. ed. 1754

Moldavica (Tourn.) Adans. Fam. Pl. 2: 190. 1763

Zornia Moench, Meth. 410. 1794. Not J. F. Gmel. 1791

Dracocephalum Benth. Lab. Gen. & Sp. 490. 1834. Not L.

Ruyschiana parviflora (Nutt.) House, l.c. 65

American dragonhead

Dracocephalum parviflorum Nutt. Gen. 2: 35. 1818

Physostegia parviflora Nutt.; Benth. in DC. Prodr. 12: 434. 1848, as syn.;

Gray, Proc. Am. Acad. 8: 371. 1873

Moldavica parviflora Britton, in Britton & Brown, Illus. Fl. ed. 2, 3: 114. 1913

Rare in dry gravelly or rocky soil in Jefferson and St Lawrence counties chiefly along the Black river and shores of ponds and lakes (Torrey, Fl. N. Y. 2: 75. 1843; Paine, Cat. Pl. Oneida Co. 112. 1865).

DRACOCEPHALUM (Tourn.) L. Sp. Pl. 594. 1753

Physostegia Benth. Lab. Gen. & Sp. 504. 1834

1 *Dracocephalum speciosum* Sweet, Brit. Fl. Gard. pl. 93. 1825—

Addisonia 5: pl. 174. 1920

Dragonhead, obedient plant, lion's heart

Physostegia formosior Lunell, Bul. Leeds Herb. 2: 7. 1908

D. virginianum Britton & Brown, Illus. Fl. ed. 2, in part. 1913

Common in cultivation and occasionally escaped or naturalized in old yards and along roadsides especially in the southern and western sections of the State. Native of the Mississippi valley.

Characterized by acute, triangular calyx-teeth, $\frac{1}{4}$ as long as the calyx-tube or shorter; corolla 2-2.5 cm long; upper leaves not conspicuously reduced; blades sharply and evenly serrate, thick and somewhat fleshy in texture, dark glossy green in color.

2 **Dracocephalum virginianum** L. Sp. Pl. 594. 1753

Virginia dragonhead or lion's heart

Physostegia virginiana Benth., l.c., in part

D. latidens House, N. Y. State Mus. Bul. 176: 39. 1915

On shores and banks of streams, or in moist meadows. Infrequent or rare from Lake Champlain and Oneida county southward and westward.

PHLOMIS (Tourn.) L. Sp. Pl. 584. 1753

Phlomis tuberosa L., l.c. 586

Jerusalem sage, sage-leaf mullen

On the shore of Lake Ontario near the mouth of the Genesee river. Naturalized from Europe. *Chester Dewey* (Sartwell herbarium, state herbarium, and Paine, Cat. 113. 1865). Not recently collected.

GALEOPSIS L. Sp. Pl. 579. 1753

Ladanium [Dill.] Gilib Fl. Lituan 1: 82. 1781

1 **Galeopsis Ladanium** L., l.c.

Red hemp nettle

L. purpureum Gilib., l.c.

L. dubium Kuntze, Rev. Gen. Pl. 521. 1891

In waste places and on ballast. Rare as a weed. Adventive from Europe. Recently collected along railroad near Pittsford, Monroe county, *Boughton* (Proc. Rochester Acad. 5: 93. 1917).

2 **Galeopsis Tetrahit** L., l.c.

Hemp nettle, hemp dead nettle, ironwort

Ladanium Tetrahit Kuntze, l.c.

In waste places, or sometimes in woods. Infrequent or locally common across the State, outside of the pine-barrens of Long Island. Quite abundant in many of the clearings and on waste land throughout the Adirondacks. Naturalized from Europe.

Var. **bifida** (Boenn.) Syme, Engl. Bot. ed. 3, 7: 67. 1863-86

G. bifida Boenn. Prodr. Fl. Monast. 178. 1824

G. Tetrahit var. *parviflora* Benth. in DC. Prodr. 12: 498. 1848

This appears to be the most common form of the species throughout all of northern and western New York. Forma **albiflora**, forma nova; with white corollas, occurs at West Caroga lake, Fulton county, *House*.

Galeopsis versicolor Curtis, Fl. Lond. Fasc. 6, *pl.* 38. 1787; and **G. villosa** Huds. Fl. Angl. Ed. 2, 1: 256. 1778 (*G. ochroleuca* Lam.) have both been collected as waifs near New York City, but are probably not established.

LEONURUS L. Sp. Pl. 584. 1753

Leonurus Cardiaca L., l.c.

Motherwort

In waste places, sometimes in open woods near habitations. A common weed in most sections of the State. Naturalized from Europe.

Leonurus glaucescens Bunge, in Ledeb. Fl. Atl. 2: 409. 1830., is reported by Taylor, as a waif near New York City.

LAMIUM (Tourn.) L. Sp. P. 579. 1753

1 **Lamium amplexicaule** L., l.c.

Henbit, henbit dead nettle

In waste and cultivated grounds. Frequent or abundant in most sections of the State. Naturalized from Europe.

2 **Lamium purpureum** L., l.c.

Red dead nettle

In waste and cultivated soil. Infrequent or rare as a weed, but rather widely distributed across the State. Naturalized from Europe.

3 **Lamium maculatum** L. Sp. ed. 2, 809. 1763

Spotted dead nettle

Along roadsides, usually as an escape from gardens. Infrequent or rare, but widely distributed across the State. Native of Europe.

4 **Lamium album** L. Sp. Pl. 579. 1753

White dead nettle

In waste places and along roadsides, also on ballast. Infrequent but widely distributed throughout the State. Naturalized from Europe.

BALLOTA L. Sp. Pl. 582. 1753

Ballota nigra L., l.c.

Black or fetid Hoarhound

In waste places. Rare as a weed. Naturalized or adventive from Europe. Near Oswego, *Sheldon*.

STACHYS (Tourn.) L. Sp. Pl. 580. 1753

1 **Stachys hyssopifolia** Michx. Fl. Bor. Am. 2: 4. 1803

Hyssop hedge nettle

In fields and thickets. Infrequent or rare in eastern and southern New York. Not uncommon on Long Island and Staten Island. Rare northward to Rensselaer county and westward to Broome county.

Stachys Grayana House, N. Y. State Mus. Bul. 233-234: 60. 1922
S. hyssopifolia var. *ambigua* Gray; *S. ambigua* Britton, not Sm.

A southern species which is reported northward to Massachusetts, but is unknown as yet in New York.

2 Stachys atlantica Britton, Man. 792. 1901

Coast hedge nettle

In wet meadows and marshes. Common along the south side of Long Island. Very rare on the north shore and on Staten Island.

3 Stachys arenicola Britton, Man. 792. 1901

Sand hedge nettle

In sandy soil. Rare from Washington county southward.

Vaughns and Hudson Falls, Washington county, *Burnham*. Lebanon Springs, Columbia county, *A. K. Harrison*. New Dorp, Staten Island, *Britton*.

4 Stachys palustris L. Sp. Pl. 580. 1753

Hedge nettle, marsh or clown's woundwort

In moist soil. Infrequent or locally abundant across the State.

North Elba, *Peck*. Utica, *Haberer*. Watkins, Schuyler county, *Peck*. Along Genesee river (Proc. Rochester Acad. 3: 95. 1896). Rare on Long Island and Staten Island and up the Hudson river to Rockland county, *Taylor* (Fl. Vic. N. Y. 535. 1915).

Var. *homotricha* Fernald, *Rhodora* 10: 85. 1908, with the sides and angles of the stems almost uniformly hirsute with long retrorse hairs. Newcomb, Essex county, *House*. Collins, Erie county, *Perkins*. Specimens from Hudson Falls, *Burnham*, are intermediate in character between this and *S. arenicola*, which grows in the same locality.

5 Stachys tenuifolia Willd. Sp. Pl. 3: 100. 1801

Smooth hedge nettle

S. glabra Riddell, Suppl. Cat. Pl. Ohio 16. 1836

S. aspera var. *tenuifolia* Eaton, Man. ed. 2, 466. 1818

S. cincinnatensis Kuntze, Rev. Gen. Pl. 531. 1891

S. aspera var. *glabra* Gray, Syn. Fl. 2¹: 387. 1878

In moist fields and thickets. Apparently very rare in New York. *Taylor* (Fl. Vic. N. Y. 535. 1915), cites Staten Island and West Point. The state herbarium contains a single specimen without definite data.

Var. *aspera* (Michx.) Fernald, *Rhodora* 10: 85. 1908

S. aspera Michx. Fl. Bor. Am. 2: 5. 1803

S. hispida Pursh, Fl. Am. Sept. 407. 1814

S. palustris var. *aspera* Gray, Man. ed. 2, 317. 1856

Angles of the stems with conspicuous reflexed bristles in the typical form, although specimens approaching the typical species are not uncommon.

In moist soil. Frequent or common across the State northward and westward, except in the higher Adirondacks. Rare south of the Hudson highlands and on Staten Island. Not reported from Long Island.

6 *Stachys Sieboldii* Miq. Ann. Mus. Bot. Lugd. Bat. 2: 112

Knotroot, Chinese or Japanese artichoke

Established along a railroad near Whitehall, Washington county, *Burnham* (N. Y. State Mus. Bul. 94: 34. 1905; 139: 30. 1910). Adventive or escaped from cultivation. Native of Asia.

7 *Stachys arvensis* L. Sp. Pl. ed. 2, 814. 1763.

In waste places. Rare as a weed, especially about nurseries. Adventive from Europe and locally established.

Stachys annua L., *S. hirta* L., *S. sylvatica* L., and *S. recta* L. have been collected as waifs or rare adventives in waste places and on ballast near New York City and elsewhere but apparently are not persistent or established permanently.

8 *Stachys olympica* Poir. Encycl. Suppl. 5: 226. 1817

S. lanata Jacq. Ic. Pl. Rar. 1: 11. t. 107. 1781. Not Crantz.

S. byzantina C. Koch, Linnaea 21: 686. 1848

Along roadsides and in waste places. Escaped from cultivation and locally established. Native of southern Europe. *Henrietta, Fuller*; *Mendon, Fish* (Proc. Rochester Acad. 3: 95. 1896).

SALVIA (Tourn.) L. Sp. Pl. 23. 1753

1 *Salvia lyrata* L., l.c.

Lyre-leaved sage

In dry, chiefly sandy woods and thickets. Common south of our borders and reported northward to the vicinity of Yonkers.

2 *Salvia Sclarea* L., l.c. 27

Clary, clear-eye

A rare escape from gardens. Established near Jamesville, Onondaga county, *Peck* (33d Rep't N. Y. State Mus. 18. 1880). Native of Europe.

3 *Salvia nutans* L., l.c.

Reported as adventive at Caledonia, Livingston county, *Beckwith* (Proc. Rochester Acad. 5: 93. 1917). Native of Europe.

4 *Salvia officinalis* L., l.c. 23

Garden sage

Frequent in cultivation and occasionally escaped or persistent in waste places. Native of southern Europe.

Salvia sylvestris L. and *S. pratensis* L., often planted as perennial ornamental plants, occasionally find their way into waste places and if undisturbed are persistent, but no records are at hand showing that either are well established.

MONARDA L. Sp. Pl. 22. 1753

1 *Monarda didyma* L., l.c. Oswego tea, American bee balm

M. coccinea Michx. Fl. Bor. Am. 1: 16. 1803

M. Kalmiana Pursh, Fl. Am. Sept. 16. pl. 1. 1814

M. oswegoensis Barton, Prodr. Fl. Phila. 34. 1815

In moist soil, especially along streams, open marshy places and banks of lakes and ponds. Common across the State northward. Less frequent southward to Dutchess and Ulster counties and westward to Lake Erie and Chautauqua county.

Var. *alba* Hort., with white flowers, is offered by dealers in plants, but has not been reported as a wild plant in this State.

2 *Monarda Clinopodia* L., l.c. Basil balm

M. glabra Lam. Dict. 4: 256. 1796

M. rugosa Ait. Hort. Kew. 1: 36. 1789

M. altissima Willd. Enum. Hort. Berol. 33. 1809

Pycnanthemum Monardella Michx. Fl. Bor. Am. 2: 8. t. 34. 1803

Monardella caroliniana Benth. Lab. Gen. & Sp. 332. 1834

In woods and thickets. Infrequent from Broome, Chenango and Oneida counties westward. Increasingly frequent in the extreme western part of the State.

3 *Monarda fistulosa* L., l.c. Wild bergamot

M. oblongata Ait., l.c. (narrow-leaved form)

M. longifolia Lam., l.c.

M. allophylla Michx. Fl. Bor. Am. 2: 16. 1803

M. involucrata Wend. Ind. Sem. Marb. 1828

M. commutata, *M. hybrida*, *M. lilacina* Wend., l.c.

M. affinis Link, Enum. Hort. Berol. 1: 9. 1821

M. varians Barton, l.c. 36

On dry hills and in thickets. Locally frequent or common across the State, outside of, and chiefly south of the Adirondacks.

4 *Monarda media* Willd. Enum. Hort. Berol. 32. 1809
Purple bergamot

M. fistulosa var. *rubra* Gray, Syn. Fl. 2¹: 374. 1878

M. fistulosa var. *media* Gray, l.c.

M. purpurea Pursh, Fl. Am. Sept. 17. 1814; Lodd. Cab. t. 1396

In moist thickets and along roadsides. Rare and somewhat local. Oneida county, *House*. Tompkins county, *Dudley*. Greenfield,

Saratoga county, *Phelps*. Shore of Irondequoit bay (Proc. Rochester Acad. 3: 94. 1896).

5 *Monarda mollis* L. Amoen. Acad. 3: 399. 1787

Pale wild bergamot

M. scabra Beck, Am. Jour. Sci. 10: 260. 1826

M. menthaefolia Graham, Bot. Mag. t. 2958

M. Lindheimeri Engelm. & Gray, Pl. Lindh. 1: 20. 1845

Usually in dry soil, in fields, on hillsides and in open woods or thickets. Frequent or locally common across the State outside of the higher Adirondacks from Lake Champlain westward to the St Lawrence river and Lake Erie, southward to Westchester county.

6 *Monarda punctata* L. Sp. Pl. 22. 1753

Horsemint

M. lutea Michx. Fl. Bor. Am. 1: 16. 1803

In dry fields. Locally common in southern New York especially in sandy or rocky soil. Less frequent northward to Washington and St Lawrence counties, westward to Lake Erie.

BLEPHILIA Raf. Jour. Phys. 89: 98. 1819

1 *Blephilia ciliata* (L.) Raf., l.c.

Downy blephilia

Monarda ciliata L. Sp. Pl. 23. 1753

In dry woods and thickets. Infrequent or rare across the State northward, south to Rensselaer and Broome counties and westward to Lake Erie.

Vaughns, Washington county, *Burnham* (46th Rep't N. Y. State Mus. 21. 1893). East Schodack, Rensselaer county, *Peck*. Binghamton, *Millsbaugh* (Torr. Club Bul. 16: 136. 1889). Near Canandaigua, *Durand* (Torr. Club Bul. 20: 408. 1893; Proc. Rochester Acad. 3: 94. 1896).

2 *Blephilia hirsuta* (Pursh) Torrey, Fl. N. & Mid. U. S. 27. 1824

Hairy blephilia

Monarda hirsuta Pursh, Fl. Am. Sept. 19. 1814

M. ciliata Michx. Fl. Bor. Am. 1: 16. 1803. Not L.

M. pilosa Torrey; Eaton, Man. ed. 2, 323. 1818

B. nepetoides Raf., l.c.

Monarda Beckii Eaton, Man. ed. 6, 229. 1833

In woods and thickets. Frequent across the State south to Dutchess, Ulster and Greene counties and westward to Lake Erie and Chautauqua county.

Forma *albiflora* House, N. Y. State Mus. Bul. 243-244: 46. 1923, with white corollas, occurs at Taberg, Oneida county, *Peck*.

HEDEOMA Pers. Syn. 2: 131. 1807

1 **Hedeoma pulegioides** (L.) Pers., l.c. American pennyroyal

Melissa pulegioides L. Sp. Pl. 593. 1753

Cumila pulegioides L. Sp. Pl. ed. 2, 30. 1762

Ziziphora pulegioides R. & S. Syst. 1: 209. 1817

In dry fields. Infrequent or somewhat locally abundant throughout the State.

2 **Hedeoma hispida** Pursh, Fl. Am. Sept. 414. 1814

Rough pennyroyal

H. hirta Nutt. Gen. 1: 16. 1818

In dry fields. Rare from Washington county westward, perhaps adventive from the West.

Little Falls, *Haberer* (N. Y. State Mus. Bul. 54: 946. 1902).

Shushan, Washington county, *Burnham* (l.c. 139: 34. 1910).

Vaughns, Washington county, *Burnham*.

MELISSA (Tourn.) L. Sp. Pl. 592. 1753

Melissa officinalis L., l.c.

Garden or lemon balm

Infrequent or locally common as a weed in waste places or in sandy or rocky soil in neglected fields, open woods and thickets. Naturalized from Europe.

SATUREIA (Tourn.) L. Sp. Pl. 567. 1753

Satureia hortensis L., l.c. 568

Summer savory

Clinopodium hortense Kuntze, Rev. Gen. Pl. 515. 1891

Occasional or rare as an escape from cultivation. Native of Europe.

CLINOPODIUM L. Sp. Pl. 587. 1753

Calamintha Moench, Meth. 408. 1794

1 **Clinopodium vulgare** L., l.c.

Field or wild basil basilweed

Melissa clinopodium Benth. Lab. Gen. & Sp. 393. 1834

Calamintha clinopodium Benth. in DC. Prodr. 12: 233. 1848

Satureia vulgaris Fritsch, Excursionsfl. Oesterr. 477. 1897

S. clinopodium Caruel, in Parl. Fl. Ital. 4: 135. 1867-69

C. Calamintha Kuntze, l.c. 515

Acinos vulgaris MacM. Met. Minn. 451. 1892

In fields, woods and thickets. Frequent or common throughout most sections of the State, but rare or lacking in the sandy portions of the coastal plain.

- 2 **Clinopodium Acinos** (L.) Kuntze, Rev. Gen. Pl. 513. 1891
Basil thyme, basil balm

Thymus Acinos L. Sp. Pl. 591. 1753
Melissa Acinos Benth. Lab. Gen. & Sp. 389. 1834
Calamintha Acinos Benth. in DC. Prodr. 12: 230. 1848
Satureia Acinos Scheele, Flora 26: 577. 1843

In waste places and roadsides. A rare adventive from Europe. Ithaca, *Dudley* (36th Rep't N. Y. State Mus. 35. 1884). Morris-town, St Lawrence county, *Mrs O. P. Phelps*.

- 3 **Clinopodium arkansanum** (Nutt.) House, Am. Mid. Nat. 7: 130. 1921
Low calamint, bed's-foot

Hedeoma glabra Nutt. Gen. 1: 16. 1818. Not Pers. 1807
H. arkansana Nutt. Trans. Am. Phil. Soc. N.S. 5: 186. 1834
Calamintha Nuttallii Benth. in DC. Prodr. 12: 230. 1848
Micromeria glabella var. *angustifolia* Torr. Fl. N. Y. 2: 67. 1843
Satureia arkansana Briq. in Engl. & Prantl. Pflanzenf. iv. Ab. 3: 302. 1896
S. glabra Fernald, Rhodora 10: 85. 1908
C. glabrum Kuntze, l.c. 515

On rocks and banks. Rare in the western part of the State, southward and westward.

Niagara Falls; Goat Island and Table rock, *Torrey* (l.c.)
Niagara Falls, *Carey*, July 3, 1836 (Sartwell herbarium).
Cooley, *Gray* (Beck herbarium). Sandy shores near Buffalo, C. S. *Sheldon*.

HYSSOPUS (Tourn.) L. Sp. Pl. 569. 1753

Hyssopus officinalis L., l.c. Hyssop

Along roadsides and in waste places, occasional across the State northward, but rare on Long Island.

ORIGANUM (Tourn.) L. Sp. Pl. 588. 1753

Origanum vulgare L., l.c. 590 Wild marjoram, organy

In fields and waste places or along roadsides, sometimes in open woods. Locally common in most sections of the State. The white-flowered forma **albiflorum** House, N. Y. State Mus. Bul. 243-244: 47. 1923, has been collected by *Peck*, at Phoenicia, Ulster county, and at Trenton Falls, Oneida county.

THYMUS (Tourn.) L. Sp. Pl. 590. 1753

1 **Thymus Serpyllum** L., l.c. Wild or creeping thyme

In thickets, woods and along roadsides. Occasional or locally common in many sections of the State. Naturalized from Europe. A variable species, and in Europe, a large number of the forms or varieties have been variously recognized both as species and as

varieties. Some of these variations are reflected in the variability of the species as naturalized in this country.

- 2 *Thymus vulgaris* L. Sp. Pl. 591. 1753 Common thyme
Recorded as a waif on Staten Island. Sometimes cultivated and tending to become established. Native of Europe.

KOELLIA Moench, Meth. 407. 1794

Brachystemon Michx. Fl. Bor. Am. 2: 5. 1803
Pycnanthemum Michx. l.c. 7

- 1 *Koellia virginiana* (L.) Kuntze, Rev. Gen. Pl. 520. 1891
Virginia mountain mint

Satureia virginiana L. Sp. Pl. 567. 1753
S. virginicum Michx., l.c. 6.
P. virginicum Pers. Syn. 2: 128. 1805.
P. lanceolatum Pursh, Fl. Am. Sept. 409. 1814

In dry fields and thickets. Infrequent across the State south of the Adirondacks and infrequent or rare westward in the State. Apparently somewhat adventive northward from the South.

- 2 *Koellia flexuosa* (Walt.) MacM. Met. Minn. 452. 1892
Narrow-leaved mountain mint

Satureia Thymus virginicus L., Mant. 2: 409. 1771
Origanum flexuosum Walt. Fl. Car. 156. 1788
K. capitata Moench, Meth. 408. 1794
P. linifolium Pursh, Fl. Am. Sept. 409. 1814
P. flexuosum B.S.P., Prel. Cat. N. Y. 42. 1888

In fields and thickets. Infrequent across the State south of the Adirondacks, but rare in the sandy coastal plain. Apparently northward it is more or less adventive from the South.

- 3 *Koellia pilosa* (Nutt.) Baill. Hist. des Pl. 10: 31. 1892
Hairy mountain mint

Pycnanthemum pilosum Nutt. Gen. 2: 33. 1818
P. muticum var. *pilosum* Gray, Syn. Fl. 2¹: 355. 1878

Near Savannah, Wayne county, *Peck* (26th Rep't N. Y. State Mus. 48. 1874). Probably adventive from the West.

- 4 *Koellia verticillata* (Michx.) Kuntze, Rev. Gen. Pl. 520. 1891
Verticillate mountain mint

Brachystemon verticillatum Michx. Fl. Bor. Am. 2: 6. pl. 31. 1803
P. verticillatum Pers. Syn. 2: 128. 1805

In dry fields and thickets. Frequent in southern New York and locally northward (perhaps largely adventive) to Rensselaer, Saratoga and Oneida counties, and westward to Lake Erie. Not reported from Long Island.

- 5 **Koellia Torrei** (Benth.) Kuntze, Rev. Gen. Pl. 520. 1891
Torrey's mountain mint

Pycnanthemum Torrei Benth, Lab. Gen. & Sp. 329. 1834

Differing apparently from the preceding species chiefly in the leaves being usually narrower and wholly glabrous. Rare in New York, a single specimen from southern New York in the state herbarium.

- 6 **Koellia clinopodioides** (T. & G.) Kuntze, Rev. Gen. Pl. 520. 1891
Basil mountain mint

Pycnanthemum clinopodioides T. & G.; Gray, Am. Jour. Sci. 42: 45. 1842

In dry soil, southeastern part of the State. Rare.

Staten Island, upper Manhattan and Westchester county, *Taylor* (Fl. Vic. N. Y. 540. 1915). Tarrytown, *Hall* (Paine, Cat. Pl. Oneida Co. III. 1865). Manhattanville, *Carey* (Sartwell herbarium). Kingsbridge, *Torrey* (Fl. N. Y. 2: 62. 1843).

- 7 **Koellia incana** (L.) Kuntze, Rev. Gen. Pl. 520. 1891
Hoary mountain mint

Clinopodium incanum L. Sp. Pl. 588. 1753

Origanum incanum Walt. Fl. Car. 165. 1788

Pycnanthemum incanum Michx. Fl. Bor. Am. 2: 7. 1803

In dry thickets, open woods and on hillsides. Frequent or common across the State, mainly south of the Adirondacks. Spreads rapidly in some localities, and probably increasing and extending its range northward.

- 8 **Koellia mutica** (Michx.) Britton, Torr. Club Mem. 5: 145. 1894
Short-toothed mountain mint

Brachystemon muticum Michx. Fl. Bor. Am. 2: 6. pl. 32. 1803

Pycnanthemum muticum Pers. Syn. 2: 128. 1805

In sandy soil. Frequent or common on Long Island and Staten Island and locally northward in Monroe county (Paine, Cat. III. 1865; Proc. Rochester Acad. 3: 93. 1896).

MAPPIA Heist.; Adans. Fam. Pl. 2: 193. 1763

Hedysmos (Mitchell) Kuntze, Rev. Gen. Pl. 520. 1891

Cunila L. Syst. Ed. 10, 1359. 1759. Not Mill 1754

- Mappia origanoides** (L.) House, Am. Mid. Nat. 8: 62. 1922
Stone mint, American dittany, sweet horse mint

Satureia origanoides L. Sp. Pl. 568. 1753

Cunila mariana L., l.c.

C. origanoides Britton, Torr. Club Mem. 5: 278. 1894

Hedysmos origanoides Kuntze, l.c.

In dry woods and thickets. Rare and local on Long Island and Staten Island. More frequent in Westchester county, and reported northward to West Point.

Staten Island (Torrey's Cat.) Glen Cove, *Coles*, Westchester county (Torrey Club Bul. 2: 29. 1871). Wading River, *E. S. Miller* (Torr. Club Bul. 4: 42. 1873). West Point and Mount Putnam, *A. H. Young*.

LYCOPUS (Tourn.) L. Sp. Pl. 21. 1753

1 *Lycopus virginicus* L. Sp. Pl. 21. 1753

Bugleweed, buglewort

In moist or wet soil. Common throughout most sections of the State except the higher Adirondacks and Catskills. Increasingly common southward.

2 *Lycopus membranaceus* Bicknell; Britton, Man. 804. 1901

Thin-leaved buglewort

In moist grounds and woods. Eastern and southern New York. Bald mountain, Rensselaer county, *House*. Green island, *Peck* (N. Y. State Mus. Bul. 197: 60. 1918). Ulster, Delaware, Greene and Sullivan counties, *Taylor* (Fl. Vic. N. Y. 542. 1915).

3 *Lycopus uniflorus* Michx. Fl. Bor. Am. 1: 14. 1803

Northern bugleweed

L. communis Bicknell; Britton, Man. 803. 1901

In low grounds, especially in bogs and marshes, and the marshy shores of streams, lakes and ponds. Common across the State northward and in the Catskill mountains. Frequent on Long Island, but rather infrequent elsewhere across the State.

4 *Lycopus sessilifolius* A. Gray, Proc. Am. Acad. 8: 285. 1870

Sessile-leaved bugleweed

In wet soil. Infrequent or rare on Long Island and Staten Island. Riverhead, *Peck* (42d Rep't N. Y. State Mus. 15. 1889).

5 *Lycopus rubellus* Moench, Metch. Supple 146. 1802

Stalked water hoarhound

L. europæus var. *integrifolius* Gray, Man. ed. 6, 346. 1867

In wet soil, in marshes, low meadows, and shores of lakes and ponds. Infrequent across the State.

- 6 *Lycopus americanus* Muhl.; Bart. Fl. Phila. Prodr. 15. 1815
Cut-leaved water hoarhound
L. sinuatus Ell. Bot. S. C. & Ga. 1: 26. 1817
L. vulgaris Nutt. Gen. 1: 15. 1818
L. exaltatus Pursh, Fl. Am. Sept. 727. 1814. Not L.
L. virginicus var. *quercifolius* Eaton, Man. ed. 2, 311. 1818
L. heterophyllus Raf. Med. Fl. 2: 28. 1830
L. europaeus var. *sinuatus* Gray, Man. ed. 5, 346. 1867

In wet soil. Common throughout the State except in the pine-barrens of Long Island. Varies greatly in the width and degree of indentation of the leaf-margins, an extreme form being, forma *angustifolius* (Nutt.) House, comb. nov. (*L. angustifolius* Nutt., l.c.), in which the leaves are very narrow and only the lower ones somewhat sinuately toothed.

- 7 *Lycopus asper* Greene, Pittonia 3: 339. 1898
Western water hoarhound
In wet soil, Bergen swamp, Genesee county, *House*.

- 8 *Lycopus europaeus* L. Sp. Pl. 21. 1753
European water hoarhound
Locally rare as a weed in southeastern New York. Naturalized from Europe.

MENTHA (Tourn.) L. Sp. Pl. 576. 1753

- 1 *Mentha viridis* L. Sp. Pl. ed. 2, 804. 1763 Spearmint
M. spicata viridis L. Sp. Pl. 576. 1753
M. tenuis Michx. Fl. Bor. Am. 2: 2. 1803

In moist fields, along ponds, brooks and lakes or sometimes in waste places. Frequent or common in most sections of the State. Naturalized from Europe.

- 2 *Mentha piperita* L. Sp. Pl. 576. 1753 Peppermint
In wet soil. Frequent or common in many sections of the State. Naturalized from Europe.

- 3 *Mentha citrata* Ehrh. Beitr. 7: 150. 1792 Bergamot mint
In wet soil. Infrequent or rare. Naturalized or adventive from Europe.

Richmond Valley, Staten Island, *Hollick & Britton* (Torr. Club Bul. 22: 461. 1895). East Rochester, *Fuller*; Wayne county, *A. J. Perkins* (Proc. Rochester Acad. 3: 93. 1896; 5: 25. 1910).

- 4 *Mentha rotundifolia* (L.) Huds. Fl. Angl. 221. 1762
Round-leaved mint
M. spicata rotundifolia L. Sp. Pl. 576. 1753

In waste places, yards and roadsides, usually in moist soil. Infrequent or rare as an adventive or naturalized plant. Native of Europe.

Jamesville, Onondaga county, *Peck* (33d Rep't N. Y. State Mus. 18. 1880.). Between Newark and Lyons, Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 93. 1896). Staten Island, *Britton*.

5 *Mentha spicata* L. Sp. Pl. 576. 1753 Horse mint
M. spicata var. *longifolia* L. Sp. Pl. 576. 1753
M. longifolia Huds. Fl. Angl. 221. 1762
M. sylvestris L. Sp. Pl. ed. 2, 804. 1763

Infrequent or rare as a weed. Adventive or naturalized from Europe in a few localities.

6 *Mentha alopecoides* Hill, Brit. Fl. 221. 1799 Woolly mint
M. sylvestris var. *alopecoides* Baker, Jour. Bot. 3: 238. 1865

Rare as a weed along the eastern seaboard, but perhaps not established in New York, and at least not definitely reported as such. Native of Europe.

7 *Mentha aquatica* L. Sp. Pl. 576. 1753 Water mint
 A rare adventive about the larger cities. Not reported as established in this State. Native of Europe.

8 *Mentha crispa* L., l.c. Crisped-leaved, curled or cross mint
M. aquatica var. *crispa* Benth. Lab. Gen. & Sp. 144. 1834

In swamps and roadside thickets. Reported as naturalized at Lake Mohegan and near Middletown, Orange county, *W. H. Leggett* (24th Rep't N. Y. State Mus. 57. 1872). Native of Europe.

9 *Mentha cardiaca* Gerard; Baker, Jour. Bot. 3: 245. 1865 Small-leaved mint

A rare adventive or rarely established in southern New York. Native of Europe.

10 *Mentha arvensis* L. Sp. Pl. 577. 1753 Corn mint, field mint
 In dry soil in waste places. Infrequent in the Hudson valley and locally elsewhere, especially in the southeastern part of the State. Native of Europe.

11 *Mentha canadensis* L. Sp. Pl. 577. 1753 American wild mint
M. borealis Michx. Fl. Bor. Am. 2: 2. 1803
M. arvensis var. *canadensis* Briquet, Bul. Herb. Boiss. 3: 215. 1895
M. canadensis borealis Piper, Contr. Nat. Herb. 11: 492. 1911

In moist soil. Common throughout the State, especially northward and westward. Variable.

Typical *M. canadensis* differs from *M. arvensis* chiefly by its longer petioled leaves which are lanceolate to oblong-lanceolate and cuneate-narrowed at the base, while *M. arvensis* has relatively broader leaves which are rounded or blunt at the base. The pubescence in *M. canadensis* is always whiter, and the calyx, corolla and filaments longer.

There are two extremes of *M. canadensis*, in regard to indument. ***M. canadensis* var. *glabrata*** Benth. (in DC. Prodr. 12: 173. 1848), is nearly or rarely quite glabrous. It is comparatively rare in New York, and apparently confined to the southern part of the State. ***M. canadensis* var. *lanata*** Piper (Contr. Nat. Herb. 11: 492. 1911), is approached by several collections from the northern part of the State, with copious and almost lanate pubescence.

12 ***Mentha gentilis*** L. Sp. Pl. 577. 1753

Creeping whorled mint

M. sativa L. Sp. Pl. ed. 2, 805. 1763

M. piperita var. *interrupta* Peck, 34th Rep't N. Y. State Mus. 55. 1881

In waste places and along streams. Infrequent but rather widely distributed throughout the State, especially in the eastern and southern parts. Naturalized from Europe.

COLLINSONIA L. Sp. Pl. 28. 1753

Collinsonia canadensis L., l.c. Stoneroot, horse balm, richweed

C. ovata Pursh, Fl. Am. Sept. 20. 1814

C. decussata Moench, Meth. 379. 1794

In moist woods. Frequent or common throughout most sections of the State, but rare on Long Island and Staten Island.

PERILLA Ard.; L. Gen. Pl. ed. 6, Add. 578. 1764

Perilla frutescens (L.) Britton, Torr. Club Mem. 5: 277. 1894

Perilla, beef-steak plant

Ocimum frutescens L. Sp. Pl. 579. 1753

P. ocymoides L. Gen. Pl. ed. 6, Add. 578. 1763

In waste places, usually as an escape from gardens.

Near Tarrytown, *Burnham* (N. Y. State Mus. Bul. 75:19. 1904).

P. frutescens* var. *nankinensis (Lour.) Britton, has been reported from Staten Island by *W. H. Leggett* (Torr. Club. Bul. 2: 29), as "*var. crispa* Gray."

Family 23 **SOLANACEAE** Zinn, Cat. Pl. Goett. 1757—Pers.

Syn. 1: 214. 1805

Potato family

ATROPA L. Sp. Pl. 181. 1753

Atropa Belladonna L., l.c.

Belladonna

Occasional in cultivation, rarely escaped, and probably not often persistent. Reported as established at Parma, Monroe county, *Bradley* (Paine, Cat. Pl. Oneida Co. 116. 1865).

PHASALODES Boehm. in Ludwig, Def. 41. 1760

Nicandra Adans. Fam. Pl. 2: 219. 1763

Phasalodes Phasalodes (L.) Britton, Torr. Club. Mem. 5: 287.

1894

Apple-of-Peru

Atropa Phasalodes L. Sp. Pl. 181. 1753

Nicandra Phasalodes Gaertn. Fruct. 2: 237. pl. 131. f. 2. 1791

Phasalodes peruvianum Kuntze, Rev. Gen. Pl. 452. 1891

In waste places. Escaped from gardens. Infrequent or rare but widely distributed across the State south of the Adirondacks. Native of Peru.

PHYSALIS L. Sp. Pl. 182. 1753

1 **Physalis pruinosa** L. Sp. Pl. 184. 1753

Tall hairy ground cherry

P. pubescens Dunal. in DC. Prodr. 13: 446. 1852. Not L.

In cultivated soil or in sandy places. Infrequent or rare in the southeastern part of the State. Not recorded northward in the State.

2 **Physalis ixocarpa** Brot.; Hornemann, Hort. Hafn. Suppl. 26.

1819

Tomatillo

P. aequata Jacq. f.; Nees, Linnaea 6: 470. 1831

Occasional as an escape from cultivation. Native of Mexico and the southeastern states.

3 **Physalis philadelphica** Lam. Encyc. 2: 101. 1786

Smooth ground cherry

P. chenopodifolia Willd. Sp. Pl. 1: 1023. 1797

P. atriplicifolia Jacq. Fragm. 58. t. 85. f. A. 1809

P. ovata Poir. Encyc. Suppl. 2: 348. 1811

P. subglabrata Mackenzie & Bush, Trans. St Louis Acad. 12: 86. 1902

Chiefly in open fields, meadows and edges of thickets. Frequent across the State chiefly south of the Adirondacks.

New Dorp, Staten Island, *Hollick & Britton* (Torr. Club Bul. 9: 150. 1882, as *P. angulata*). Menands, *Peck* (41st Rep't N. Y. State Mus. 57. 1888, as *P. virginiana*). Oneida, Madison county, *House*. Canandaigua, *Mrs E. P. Gardner*.

4 *Physalis virginiana* Mill. Gard. Dict. ed. 8, No. 4, 1768

Virginia ground cherry

P. obscura Michx. Fl. Bor. Am. 1: 149. 1803

P. viscosa Torr. Fl. N. Y. 2: 103. 1843. Not L.

P. pennsylvanica Gray, Man. ed. 5, 382. 1867. Not L.

In moist or rich soil, especially in open places. Infrequent across the State, outside of the Adirondacks.

Washington county, *Burnham*. Menands, *Peck*. Gates, Monroe county, *Fish* (Proc. Rochester Acad. 3: 88. 1896). Rare as an adventive in most parts of our range; often wanting locally, *Taylor* (Fl. Vic. N. Y. 346. 1915).

5 *Physalis heterophylla* Nees, Linnaea 6: 463. 1831

Clammy ground Cherry

P. viscosa Pursh, Fl. Am. Sept. 157. 1814. Not L.

P. virginiana Gray, Syn. Fl. 2¹: 235. 1878. Not Mill.

In rich soil, especially where the surface has been disturbed. Frequent or locally common across the State. Apparently the most common species of the State, but either rare or wanting in the Adirondacks.

Var. *ambigua* (Gray) Rydberg, with densely villous foliage, occurs at Karner, Albany County, *Peck*, and doubtless elsewhere. Var. *nyctaginea* (Dunal) Rydberg, with thinner, more entire and acuminate leaves which are pubescent only on the veins, occurs chiefly in the coastal region.

6 *Physalis Alkekengi* L. Sp. Pl. 183. 1753

Winter cherry

Frequent in cultivation and occasionally escaped or established. Native of Europe and Asia.

7 *Physalis peruviana* L. Sp. Pl. ed. 2, 1670. 1763

Strawberry tomato

Sometimes cultivated and occasionally spontaneous in gardens and cultivated grounds, but not persistent or established. Native of South America.

Leucophysalis grandiflora (Hook.) Rydb. Torr. Club Mem. 4: 356. 1896; *Physalis grandiflora* Hook. Fl. Bor. Am. 2: 90. 1834. A boreal species ranging from eastern Quebec to the Saskatchewan and recorded southward to Lake Champlain, may occur in the extreme northern part of the State although definite records are lacking.

SOLANUM (Tourn.) L. Sp. Pl. 184. 1753

Dulcamara Moench, Meth. 514. 1794

1 **Solanum Dulcamara** L., l.c. 185

Climbing or bitter nightshade, bittersweet, blue bindweed

Dulcamara flexuosa Moench, l.c.

In waste places and in moist thickets and woods, often appearing as though indigenous. Naturalized from Europe and common in most sections of the State. Var. **villosissimum** Desv. Pl. Angers. 112. 1818 (Fernald, *Rhodora* 24: 202. 1922) should be expected in southeastern New York.

Forma **albiflorum** forma nova, with white corollas has been collected by *Florence Beckwith* at Caledonia [State herbarium].

2 **Solanum nigrum** L., l.c. 186

Black, deadly or garden nightshade

In waste places, often in cultivated soil, but frequently in woods and thickets. Common and usually appearing as though introduced, but in part at least a native species.

3 **Solanum tuberosum** L., l.c. 185

Potato

Occasionally spontaneous following cultivation, or from discarded tubers, especially in waste places or in and about cultivated soil, but rarely persistent for more than a year or two. Native of South America and very common in cultivation.

4 **Solanum carolinense** L. Sp. Pl. 184. 1753

Horse nettle, sand brier

In dry fields and waste places. Occasional as a weed, in some sections becoming common. Adventive or naturalized from the South.

At the time of Torrey's *Flora* (1843), only two stations were recorded, viz: near Newtown, Long Island, and Rye, Westchester county.

5 **Solanum sisymbriifolium** Lam. Ill. 2: 25. 1793

Viscid nightshade

In waste places and on ballast, especially about New York, and rarely elsewhere. Adventive from tropical and subtropical America.

NYCTERIUM Vent. Jard. Malm. t. 85. 1803

Androcera Nutt. Gen. 1: 129. 1818

Ceranthra Raf. Am. Mo. Mag. 3: 176. 1818. Not Beauv. 1805

Nycterium rostratum (Dunal) Link, Enum. Hort. Berol. 1: 189.
1809 Sandbur, beaked or prickly nightshade

Solanum rostratum Dunal, Sol. 234. pl. 24. 1813

S. heterandrum Pursh, Fl. Am. Sept. 156. pl. 7. 1814

Androcera lobata Nutt., l.c.

A. rostrata Rydberg, Torr. Club Bul. 33: 150. 1906

Occasional in waste places in many parts of the State. Less frequent or rare in the southeastern section, and more frequent westward. Naturalized from the West.

Nycterium citrullifolium (Braun) House, comb. nov. (*Solanum citrullifolium* Braun, Ind. Sem. Frib. 1849), native of the middle western and southwestern states, belongs to this genus.

LYCOPERSICON Mill. Gard. Dict. abr. ed. 4. 1754

Lycopersicon lycopersicon (L.) Karst. Deutsch. Fl. 966. 1882
Tomato, love apple

Solanum lycopersicon L. Sp. Pl. 185. 1753

L. esculentum Mill. Gard. Dict. ed. 8, 1768

Common in cultivation, and often spontaneous in and about cultivated soil, and in waste places, but usually not long persistent.

LYCIUM L. Sp. Pl. 191. 1753

Lycium halimifolium Mill. Gard. Dict. ed. 8, No. 6, 1768

Matrimony vine, box thorn

L. barbatum var. *vulgare* Ait. f. Hort. Kew. ed. 2, 2: 3. 1811

L. vulgare Dunal in DC. Prodr. 13¹: 509. 1852

In thickets and waste places, frequent or occasional as an escape from cultivation. Native of Europe.

HYOSCYAMUS (Tourn.) L. Sp. Pl. 179. 1753

Hyoscyamus niger L., l.c. Black henbane, hog's-bean

In waste places. Rare as a weed or a waif. Adventive or naturalized from Europe.

Westchester county, *Torrey* (Fl. N. Y. 2: 102. 1843). Fort Plain, and in Otsego county, *H. Lathrop* (Paine, Cat. Pl. Oneida Co. 116. 1865). Oswego, *Wiegand* (*Torreya* 6: 70. 1906). Rochester, *Vollertsen, Streeter* (Proc. Rochester Acad. 3: 89. 1896; 5: 93. 1917). Plattsburg, *Beck*.

Hyoscyamus albus L., has been recorded as a waif near New York City.

DATURA L. Sp. Pl. 179. 1753

1 **Datura Stramonium** L., l.c.

Jamestown or jimsonweed, thorn apple, stramonium

In fields and waste places. Frequent in many sections of the State. Naturalized from the tropics.

D. Tatula L. (Sp. Pl. Ed. 2, 256. 1762), is sometimes considered a distinct species, but the differences, if constant are rather slight (stem purple, corolla pale violet-purple, prickles of the capsule nearly equal).

2 **Datura Metel** L. Sp. Pl. 179. 1753

Entire-leaved thorn apple

In waste places. A rare garden escape about cities of the eastern and southern portions of the State. Native of tropical America.

NICOTIANA (Tourn.) L. Sp. Pl. 180. 1753

Nicotiana rustica L., l.c.

Wild or Indian tobacco

In old fields and edges of woods and thickets, infrequent in western New York, and rarely elsewhere in central New York and southward into Pennsylvania. Apparently a relic of cultivation by the Indians, and still used by them to some extent, although largely replaced by *N. tabacum* L., for modern cultivation, and which is not hardy in our climate and hence not established.

Nicotiana alata Link & Otto (also known under the horticultural name of *N. affinis*) is common in cultivation, and occasionally appears as an escape.

PETUNIA Juss. Am. Mus. Paris 2: 215. pl. 47. 1803

Petunia axillaris (Lam.) B. S. P., Prel. Cat. N. Y. 38. 1888

White petunia

Nicotiana axillaris Lam. Encycl. 4: 480. 1797

P. nyctaginiflora Juss., l.c.

In waste places, chiefly as an escape from gardens. Infrequent or rare in southern New York, and hardly persistent.

Petunia violacea Lindl. Bot. Reg. pl. 1626. 1833; and **P. parviflora** Juss., l.c., are rare adventives or garden escapes in southern New York, the last named being found also on ballast. Both are natives of South America.

Family 24 **SCROPHULARIACEAE** Lindl. Nat. Syst. ed. 2,
288. 1836

Figwort family

VERBASCUM (Tourn.) L. Sp. Pl. 177. 1753

1 **Verbascum Thapsus** L., l.c.

Velvet or mullen dock

In fields and waste places. A common weed in most sections of the State. Naturalized from Europe, and native also of Asia. **Forma candicans** House, nom. nov. (*V. elongatum* Willd., not Moench),

with white flowers, is noted by *Peck* (34th Rep't N. Y. State Mus. 54. 1881).

2 *Verbascum phlomoides* L. Sp. Pl. 1194. 1753

Clasping-leaved mullen

In fields on eastern Long Island. Rare. Naturalized from the Old World. Wading River, *Peck* (N. Y. State Mus. Bul. 105: 29. 1906).

3 *Verbascum Lychnitis* L. Sp. Pl. 177. 1753

White mullen

In fields and waste places. Infrequent or local. Naturalized from Europe.

Barren sandy fields and copses at the head of Oneida lake, *Torrey* (Fl. N. Y. 2: 30. 1843; *Paine*, Cat. Pl. Oneida Co. 107. 1865; *House*, *Torrey* 3: 105. 1903; *Vasey*, in Sartwell herbarium. *House*, N. Y. State Mus. Bul. 179: 46. 1915).

Forma *album* (Mill.) *House*, N. Y. State Mus. Bul. 243-244: 45. 1923 (*V. album* Mill. Gard. Dict. No. 3. 1768; *Moench*, Meth. 447, 1794; *V. Moenchii* Schultz), with white flowers, occurs also in the Oneida lake locality.

Verbascum Lychnitis x thapsus *House* (N. Y. State Mus. Bul. 179: 47. 1915), frequent at Sylvan beach, Oneida county. A large number of hybrid forms of *Verbascum* have been described by European writers, and this has doubtless already received a hybrid name.

4 *Verbascum Blattaria* L. Sp. Pl. 178. 1753

Moth mullen

In fields and waste places. Common in most sections of the State. Naturalized from Europe, and doubtless of early introduction into America as it appears to have been described by *Michaux* as *V. Claytonii* (Fl. Bor. Am. 1: 148. 1803).

Forma *albiflorum* (G. Don) *House*, l.c. 243-244: 45. 1923 (*V. Blattaria* var. *albiflorum* G. Don, Gen. Syst. 4: 497. 1838), with white flowers, is common.

LINARIA (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754

Subgenus **Cymbalaria**

Cymbalaria Hill, Brit. Herb. 1756. Medic. Phil. Bot. 2: 70. 1791

1 **Linaria Cymbalaria** (L.) Mill. Gard. Dict. ed. 8, No. 17. 1768

Antirrhinum Cymbalaria L. Sp. Pl. 612. 1753

C. Cymbalaria Wettst. in Engl. & Prantl. Nat. Pflanzenfl. 4^{3b}: 58. 1891

C. hederacea S. F. Gray, Nat. Arr. Br. Pl. 2: 322. 1821

C. muralis Gaertn., Mey. & Schreb. Fl. Wett. 2: 397. 1800

C. vulgaris Fourr. in Ann. Soc. Linn. Lyon, N.S. 17: 126. 1869

In waste places, roadsides, in lawns and on stone walls. Usually as an escape from gardens and in some places well established. (See Proc. Rochester Acad. 5: 25. 1910).

Subgenus **Kickxia**

Elatine Rupp.; Moench, Meth. 171. 1794. Not L.
Kickxia Dumort. Fl. Belg. 35. 1827
Tursitis Raf. Aut. Bot. 156. 1840
Elatinoides Wettst., in Engl. & Prantl., l.c.

2 **Linaria Elatine** (L.) Mill., l.c. No. 16.

Sharp-pointed fluellin or toad flax

Antirrhinum Elatine L. Sp. Pl. 612. 1753
Kickxia Elatine Dumort., l.c.
Elatinoides Elatine Wettst., l.c.
Cymbalaria Elatine Gaertn. Mey. & Schreb., l.c. 398
Tursites Elatine & *T. filifera* Raf., l.c. 157

In waste places, old fields and on ballast. Infrequent or rare.
 Adventive or naturalized from Europe.

Fields near Albany, *Beck*; shore of Cayuga lake, *Gray* (Torrey, Fl. N. Y. 2: 32. 1843; Paine, Cat. 107. 1865). Geneva, *Sartwell*. Shell Drake point, Cayuga lake, *Lord*. Farley's point, Cayuga lake and along railroad near Ithaca, *Dudley* (Cayuga Fl. 67. 1886).

3 **Linaria spuria** (L.) Mill., l.c. No. 15

Round-leaved fluellin or toad flax

Antirrhinum spurium L. Sp. Pl. 613. 1753
Kickxia spuria Dumort., l.c.
Cymbalaria spuria Gaertn., Mey. & Schreb., l.c.
Elatinoides spuria Wettst., l.c.

In waste places and on ballast. Infrequent or rare, and chiefly as an adventive from Europe.

Subgenus **Chaenorrhinum**

Chaenorrhinum (DC.) Lange; Willk. & Lange, Prodr. Fl. Hisp. 2: 577. 1870

4 **Linaria minus** (L.) Desf. Fl. Atlant. 2: 46. 1800

Small snap dragon

Antirrhinum minus L. Sp. Pl. ed. 2, 852. 1763
Chaenorrhinum minus Lange, l.c. 579

In waste places, on ballast and along railroads. Until recently considered rare, but lately noted in many localities throughout the State, even into the higher Adirondacks along railroads.

Subgenus **Eulinaria** (*Linaria* proper)

5 **Linaria Linaria** (L.) Karst. Deutsch. Fl. 947. 1882

Ramstead, butter-and-eggs

Antirrhinum Linaria L. Sp. Pl. 616. 1753
Linaria vulgaris Hill, Brit. Herb. 108. 1756

In fields and waste places. Very common. Naturalized from Europe.

6 *Linaria genistifolia* Mill. Gard. Dict. ed. 8, No. 14. 1768

Found nearly a century ago in New York City, Brooklyn and in Queens county, has not been collected for more than three-quarters of a century, and as an adventitious addition to our flora has apparently not persisted. Native of Europe.

7 *Linaria supina* Desf. Fl. Atlant. 2: 44. 1800. Supine linaria

In waste places and on ballast. A rare adventive in southern New York. Native of Europe.

8 *Linaria canadensis* (L.) Dumort. Bot. Cult. 2: 96. 1802

Blue or wild toad flax

Antirrhinum canadense L. Sp. Pl. 618. 1753

In dry or sandy soil. Frequent or common in the southern part of the State and locally so across the State northward, outside of the higher Adirondacks.

9 *Linaria repens* (L.) Mill. Gard. Dict. ed. 8, No. 6. 1768

Pale blue toad flax

Antirrhinum repens L. Sp. Pl. 614. 1753

L. striata DC. Fl. Fr. 3: 586. 1805

A rare adventive on ballast near New York City. Native of Europe.

ANTIRRHINUM (Tourn.) L. Sp. Pl. 612. 17531 *Antirrhinum majus* L., l.c. 617 Great snap dragon

In waste places. Sparingly or rarely escaped from cultivation. Native of Europe.

2 *Antirrhinum Orontium* L., l.c. Lesser snap dragon

In fields and waste places. Infrequent or rare as an adventive from Europe.

SCROPHULARIA (Tourn.) L. Sp. Pl. 619. 17531 *Scrophularia marylandica* L., l.c.

Maryland figwort, heal-all, pilewort

S. nodosa var. *americana* Michx. Fl. Bor. Am. 2: 21. 1803

S. nodosa var. *marylandica* Gray, Syn. Fl. 2¹: 258. 1878

In dry woods and thickets. Infrequent or rare across the State south of the Adirondacks. Increasingly common southward.

Blooms in late summer. Leaves less cut, tending to cordate at the base, the inflorescence more araple and lax, not so obviously in panicles; corolla browner and sterile filament purple-brown.

- 2 *Scrophularia lanceolata* Pursh, Fl. Am. Sept. 419. 1814
Hare figwort

S. pectinata Raf. Aut. Bot. 160. 1840

S. leporella Bicknell, Torr. Club Bul. 23: 317. 1896

In woods, thickets, along roadsides or on open hillsides. Frequent across the State except the higher Adirondacks.

Blooms in early summer. Leaves sharply cut, narrowed or at least never cordate at base; inflorescence longer and narrower, of a series of evident panicles; corolla more yellow and sterile filament yellow.

- 3 *Scrophularia aquatica* L., l.c. Water figwort

A rare adventive on ballast near New York City. Native of Europe.

CHELONE (Tourn.) L. Sp. Pl. 611. 1753

- Chelone glabra* L., l.c. Snakehead, turtlehead

In swamps and along streams, ponds and lakes. Frequent or common throughout the State.

PENTSTEMON Mitchell; Schmidel, Ic. Pl. 2. 1762—Soland. in Ait Hort. Kew. 3: 511 1789

- 1 *Pentstemon hirsutus* (L.) Willd. Sp. Pl. 3: 227. 1801
Hairy beardtongue

Chelone hirsuta L. Sp. Pl. 611. 1753

P. pubescens Soland., l.c. 360

In dry woods and thickets. Frequent across the State outside of and chiefly south of the Adirondacks. Perhaps in the north largely adventive from farther south.

- 2 *Pentstemon pallidus* Small, Fl. SE. U. S. 1069. 1903
Pale beardtongue

In light or sandy soil or in marshy places. Infrequent from Westchester county southward, and in western New York.

Westchester county, *Taylor* (Fl. Vic. N. Y. 552. 1915). Collins, Erie county, *Dr A. E. Perkins*.

- 3 *Pentstemon Pentstemon* (L.) Britton, Torr. Club Mem. 5: 291. 1894
Smooth beardtongue

Chelone Pentstemon L. Sp. Pl. ed. 2, 850. 1763

P. laevigatus Soland., l.c. 300

Native from Pennsylvania southward. Commonly adventive and naturalized in meadows, fields and open woods, northward to Lake Champlain, St Lawrence county and Lake Ontario.

- 4 *Pentstemon Digitalis* (Sweet) Nutt. Trans. Am. Phil. Soc.
(II) 5: 181. 1833-37 Foxglove beardtongue

Chelone Digitalis Sweet, Brit. Fl. Gard. 2: pl. 120. 1825-27

P. laevigatus var. *digitalis* Gray, Syn. 2^d: 268. 1878

Like the preceding species, native south of our borders, but sparingly adventive or naturalized in similar situations across the State, especially southward.

- 5 *Pentstemon tubiflorus* Nutt., l.c. 181

Funnelform beardtongue

Native of the southwestern Mississippi valley region. Reported by *Pennell*, as established at Spring Valley, Rockland county.

Pentstemon grandiflorus Nutt. Fras. Cat. 1813, is reported as established eastward from its natural range in the middle western states and may be looked for in New York.

COLLINSIA Nutt. Jour. Acad. Phila. 1: 190

pl. 9. 1817

- Collinsia verna* Nutt., l.c.

Blue-eyed Mary, innocence

In moist woods and thickets. Very rare in central and western New York.

Wet meadows on the flats of the Mohawk, below Utica; borders of a small pond near Utica, *Kneiskern*; Gray; Ithaca, *Aiken* (Paine, Cat. Pl. Oneida Co. 107. 1865; Torrey, Fl. N. Y. 2: 233. 1843). West Rush, *Baxter*; *Strecker* (Proc. Rochester Acad. 5: 25. 1910). Near mouth of Oneida creek, Oneida lake, *Mrs M. E. Allbee*. 1903.

Specimens collected by *Gray* and *Sartwell* near Utica are in the Sartwell herbarium, and the Beck collection in the State Museum. Additional specimens from Utica by *Gray* are also in the state herbarium. The Ithaca collection by *Aiken* is found in the Beck collection. The species has not been collected recently at either of these localities.

PAULOWNIA Sieb. & Zucc. Fl. Jap. 1: 25. pl. 10. 1835

- Paulownia tomentosa* (Thunb.) Baill. Hist. Pl. 9: 434. 1888

Paulownia or empress tree

Bignonia tomentosa Thunb. Fl. Jap. 252. 1784

P. imperialis Sieb. & Zucc., l.c.

Escaped from cultivation and established in southern New York. Native of eastern Asia.

MIMULUS L. Sp. Pl. 634. 1753

- 1 *Mimulus ringens* L., l.c.

Square-stemmed monkey flower

In swamps, marshes and along streams, or in low or wet meadows.

Common throughout most sections of the State, but absent from the pine-barrens of Long Island.

Forma *Peckii* House, N. Y. State Mus. Bul. 243-244: 17. 1923, with white corollas, collected by *Peck*, (34th Rep't N. Y. State Mus. 54. 1881).

2 *Mimulus alatus* Soland. in Ait. Hort. Kew. 2: 361. 1789

Sharp-winged monkey flower

In swamps and marshes. Infrequent or rare across the State south of the Adirondacks.

Near junction of Champlain and Erie canals, *Wright & Hall* (Cat. Pl. Troy 26. 1836). Abundant in western part of State, *Beck*; Greece, Monroe county, *Bradley*; Lockport, *Sartwell* (Paine, Cat. Pl. Oneida Co. 108. 1865). Rochester, *Holzer* (Proc. Rochester Acad. 3: 90. 1896). Staten Island, in the Bronx and near New Baltimore, Greene county, *Taylor* (Fl. Vic. N. Y. 553. 1915). Staten Island, *Hollick & Britton* (Torr. Club Bul. 7: 113. 1880; 8: 48. 1881; 9: 150. 1882). Catskill, Greene county, *Peck*.

Forma *albiflorus* House, l.c. with white flowers, *Peck* (34th Rep't N. Y. State Mus. 54. 1881).

3 *Mimulus Langsdorffii* Donn.; Sims, Bot. Mag. pl. 1501. 1812

Langsdorff's yellow monkey flower

Native of California, and reported as a rare adventive in southern New York.

4 *Mimulus moschatus* Dougl.; Lindl. Bot. Reg. pl. 1118. 1827

Muskflower, musk plant

In wet places, Long Island and in Saratoga county. Adventive from the West, and in Saratoga county, apparently well naturalized.

Locust Grove, Long Island, 1886, *J. A. Bisky* (Torr. Club Bul. 14: 13. 1887; 40th Rep't N. Y. State Mus. 52. 1887). Near Middle Grove and Greenfield Center, Saratoga county, *J. H. Wibbe* (Torr. Club Bul. 19: 22. 1892; 46th Rep't N. Y. State Mus. 47. 1893; 47th Rep't 33. 1894).

GRATIOLA L. Sp. Pl. 17. 1753

1 *Gratiola neglecta* Torr. Cat. Pl. N. Y. 89. 1819

Northern clammy hedge hyssop

G. virginiana of N. Y. reports. Not L.

G. officinalis Michx. Fl. Bor. Am. 1: 6. 1803. Not L.

G. pubescens Torrey; Eaton, Man. ed. 2, 262. 1818. Not R. Br. 1810

Conobea borealis Spreng. Neue Entdeck. 3: 26. 1822

G. missouriana Beck, Am. Jour. Sci. 10: 253. 1826 (type in herb. N. Y. State Mus.)

G. lutea Raf. Med. Repos. (II) 3: 333. 1811 (a name to replace *G. officinalis* Michx.)

G. heterophylla & *G. odorata* Raf. Aut. Bot. 43. 1840

In wet or muddy places, locally frequent across the State, but rare or absent in the sandy pine-barrens of Long Island. Rather common in the upper Hudson valley, lower elevations of the Adirondacks, central New York and westward.

2 *Gratiola aurea* Muhl. Cat. 2. 1813

Goldenpert, golden hedge hyssop

In wet sandy places, chiefly on the coastal plain. Locally northward to Rensselaer and Oneida counties.

Common on Long Island and Staten Island (*Taylor*). Smithtown, Suffolk county, *Peck*. Huntington, *House*. Orient, *Burnham & Latham* (*Torrey* 14: 250. 1914). Troy, *H. C. Gordinier*. Oneida lake, *House*.

ILYSANTHES Raf. Ann. Nat. 13. 1820

1 *Ilysanthes inaequalis* (Walt.) Pennell, *Torrey* 19: 149. 1919

Long-stalked false pimpernel

Gratiola inaequalis Walt. Fl. Cat. 61. 1788

G. anagallidea Michx. Fl. Bor. Am. 1: 6. 1803

Lindernia dilatata Muhl. Cat. 61. 1813; Torr. Fl. N. Y. 2: 38. 1843

L. pyxidaria Pursh, Fl. Am. Sept. 419. 1814

I. riparia Raf., l.c.

I. anagallidea Raf. Aut. Bot. 46. 1840. Robinson, *Rhodora* 10: 67. 1908

I. dilatata (Muhl.) Raf., & *I. geniculata* Raf. Aut. Bot. 45, 46. 1840

In wet or muddy places. Infrequent or locally abundant across the State, chiefly south of the Adirondacks.

Oneida lake, *Kneiskern* (*Paine*, Cat. Pl. Oneida Co. 108. 1865); *Haberer*, *Peck*, *House*; Orient, Long Island, *Burnham & Latham* (*Torrey* 14: 250. 1914). Tioga and Chenango counties but not reported from Broome and Delaware counties, *Clute* (Fl. Upper Susquehanna 81. 1898). Penn Yan, Yates county, *Sartwell*. Rare, Brockport, *Lennon*; Kendall, Orleans county, *Baxter*; Sodus Bay, *Fish* (Proc. Rochester Acad. 3: 90. 1896).

2 *Ilysanthes dubia* (L.) Barnhart, Torr. Club Bul. 26: 276. 1899

Short-stalked false pimpernel

Gratiola dubia L. Sp. Pl. 17. 1753

Capraria gratioloides L. Syst. ed. 10, 1117. 1759

Lindernia attenuata Muhl. Cat. 61. 1813; Torr. Fl. N. Y. 2: 38. 1843

Gratiola attenuata Spreng. Syst. 1: 39. 1825

I. gratioloides Benth, in DC. Prodr. 10: 419. 1846

I. attenuata Raf., ex Benth., l.c.; Small, Torr. Club Bul. 21: 494. 1894;

Britton & Brown, Illus. Fl. ed. 2, 3: 197. 1913

L. pyxidaria var. *major* Pursh, Fl. Am. Sept. 419. 1814

Ambulia pilosa Raf. & *Ilysanthes brevipes* Raf. Aut. Bot. 44, 45. 1840

In wet places. Frequent or common across the State outside of the pine-barrens of Long Island, and only locally in certain parts of the Adirondack region. Locally rare in various other sections of the State.

LIMOSELLA L. Sp. Pl. 631. 1753

Limosella aquatica L., l.c. Mudweed, mudwort

L. tenuifolia Hoffm. Deutsch. Fl. 29. 1804; Nutt. Jour. Acad. Phila. 1: 155. 1818

L. subulata Ives, Trans. Phys. Med. Soc. N. Y. 1: 439. 1818-Eaton, Man. 303. 1818

L. brachistema Raf. Am. Mo. Mag. 3: 273. Aug. 1818

L. maritima Raf. Atl. Jour. 199. 1833

On muddy shores and in brooks and ditches, chiefly in the southeastern part of the State.

West Point, *Bailey*; Peekskill, *Mead* (Torr. Fl. N. Y. 2: 40. 1843). Cold Spring, *Jelliffe* (Torreya 4: 100. 1904). Fort Pond Bay, Long Island, *E. S. Miller* (Torr. Club Bul. 7: 18. 1880). Woodside and Peekskill (Torr. Club Bul. 2: 21. 1871; 3: 40. 1872).

VERONICA (Tourn.) L. Sp. Pl. 9. 1753

1 **Veronica americana** Schwein.; Benth. in DC. Prodr. 10: 468. 1846 American brooklime

V. beccabunga Pursh; Fl. Am. Sept. 11. 1814. Not L.

V. intermedia Schw. in Am. Jour. Sci. 8: 268. 1824. name only

V. beccabunga var. *americana* Raf. Med. Fl. 2: 109. 1830; Torr. Fl. N. Y. 2: 41. 1843

In brooks and swamps. Common in most sections of the State, but rare on Long Island.

2 **Veronica Baxteri** House, Bul. N. Y. State Mus. 233-234: 11. 1922 Baxter's brooklime

In moist fields, in Rochester and Ontario counties.

Related to *V. americana*, but differing chiefly in the broader leaves which are blunt or rounded at both ends, the racemes chiefly from the lower or middle nodes and the larger sepals and bracts.

3 **Veronica beccabunga** L. Sp. Pl. 12. 1753

European brooklime

Native of Europe, and reported as a rare adventive in waste places and on ballast near New York City.

4 **Veronica glandifera** Pennell, Torreya 19: 170. 1919

Glandular brooklime

In moist calcareous places. Rare.

Vaughns, Washington county, *Burnham* 1910. Brook west of Kingsbury Street, north of Hudson Falls, *Burnham*, 1918.

5 **Veronica Brittonii** Porter; Pennell, l.c. 168

Britton's brooklime

V. Anagallis latifolia Britton, Torr. Club Bul. 12: 49. 1885

In moist or wet waste places. Rare in the southern and southeastern sections of the State.

Apalachin, Tioga county, *Fenno*, 1900. Dr Pennell also cites: New Baltimore, *Taylor*; Flushing, *Bisky*; Tappan, *Leggett*; Spring Valley and Jamaica, Long Island. To this and the preceding species belong all New York references to *V. Anagallis-aquatica* L.

6 Veronica scutellata L. Sp. Pl. 12. 1753

Marsh or skullcap speedwell

V. uliginosa Raf. Am. Mo. Mag. 2: 175. 1818

In swamps, marshes, brooks and wet places. Common in most sections of the State, especially northward, but rare on Long Island.

7 Veronica officinalis L. Sp. Pl. 11. 1753

Common speedwell, fluellin, gipsyweed

In dry fields, on banks or in woods and sometimes in swamps. Common throughout the State, but rare in the pine-barrens of Long Island. Sometimes appears as though introduced.

Forma *albiflora* (G. Don) House, comb. nov. [*V. officinalis* var. *albiflora* G. Don, Gen. Syst. 4: 579. 1838], is rare.

8 Veronica maritima L. Sp. Pl. 10. 1753

Long-leaved speedwell

V. longifolia L., l.c.

V. spuria L., l.c. ?

In waste ground and in fields. An infrequent adventive or locally naturalized species. Native of Europe. Variable; for discussion of variations see Pennell (*Rhodora* 23: 11. 1921).

9 Veronica Chamaedrys L. Sp. Pl. 13. 1753

Germander speedwell

In fields and waste places. Occasional throughout the cultivated sections of the State. Naturalized from Europe.

10 Veronica spicata L. Sp. Pl. 10. 1753

Roadsides near Stockholm, St Lawrence county, *Mrs O. P. Phelps*. Adventive from northern Eurasia.

11 Veronica Teucrium L. Sp. Pl. ed. 2, 16. 1762

Along roadsides and in fields. Mexico, Oswego county, *House & Killip*. Canton, St Lawrence county, *Mrs O. P. Phelps*. Tabor-ton, Rensselaer county, *House*. Naturalized from Europe.

12 *Veronica serpyllifolia* L. Sp. Pl. 12. 1753

Thyme-leaved speedwell

In fields and thickets. Common throughout the State and probably naturalized from Europe, altho sometimes regarded as in part native to America.

13 *Veronica humifusa* Dickson, Trans. Linn. Soc. 2: 288. 1794

Northern thyme-leaved speedwell

V. neglecta F. W. Schmidt, Fl. Boem. 1: 12. 1794

V. ruderalis Vahl, Enum. Pl. 1: 66. 1805

V. serpyllifolia humifusa Vahl. l.c. 65

In woods and thickets. Infrequent or rare across the northern part of the State.

North Elba, *Peck*. Taberg, Oneida county, *House*.

14 *Veronica peregrina* L. Sp. Pl. 14. 1753

Purslane speedwell, neckweed

V. caroliniana Walt. Fl. Car. 61. 1788

V. carnulosa Lam. Encycl. Meth., Illus. 1: 47. 1791

In moist places and in cultivated soil. Common in most sections of the State. Naturalized from Europe.

V. peregrina xalapensis (H.B.K.) Pennell, Torreya 19: 167. 1919—Rhodora 23: 19. 1921 (*V. xalapensis* H.B.K. Nov. Gen. & Sp. 2: 389. 1818), native of the Pacific coast southward into South America is adventive or naturalized eastward to New England, and occurs rarely in western and southern New York.

15 *Veronica arvensis* L. Sp. Pl. 13. 1753

Corn or wall speedwell

In fields, woods and waste places. Common in most sections of the State. Naturalized from Europe.

16 *Veronica agrestis* L. Sp. Pl. 13. 1753

Procumbent, field or garden speedwell

In fields and waste places. Infrequent but rather widely distributed throughout the State. Naturalized from Europe.

17 *Veronica polita* Fries, Novit. Fl. Suec. 63. 1819

? *V. didyma* Tenore, Prod. Fl. Nap. 6. 1811

V. crenulata Sesse & Mocino, Fl. Mex. 5. 1892

On ballast, and rarely along roadsides, gardens and waste ground. Adventive from Eurasia and rare in New York.

18 *Veronica persica* Poir. Encyc. Meth., Bot. 8: 542. 1808

Byzantine or persian speedwell

V. agrestis var. *byzantina* Sibth. & Sm. Fl. Graec. 1: pl. 8. 1806

V. Buxbaumii Tenore, Fl. Nap. 1: 7. pl. 1. 1811

V. precox Raf. Atl. Jour. 79. 1832. Not All. 1789

V. diffusa Raf. New Fl. 4: 38. 1838

V. Tournefortii Gmelin, Fl. Bad. 1: 39. 1805, in part. Not F. W. Schmidt, 1793

V. byzantina B. S. P. Prel. Cat. N. Y. 40. 1888

In waste places and in fields. Occasional throughout the State, and locally abundant. Naturalized from Europe.

19 *Veronica biloba* L. Mant. 172. 1771

Yonkers, *E. P. Bicknell*. Adventive from Europe.

20 *Veronica hederaefolia* L. Sp. Pl. 13. 1753

Ivy-leaved speedwell

? *V. reniformis* Raf. Med. Repos. (II) 5: 360. 1808

In thickets, fields and waste places. Somewhat rare as a weed in southern and southeastern New York. Naturalized from Europe.

VERONICASTRUM Heister; Fabr. Enum. Meth. Hort. Helmstead III. 1759

Callistachya Raf. Med. Repos. (II) 5: 60. 1808. Not *Callistachys* Vent. 1804

Leptandra Nutt. Gen. 1: 7. 1818

Eustachya Raf. Am. Mo. Mag. 3: 190. 1919. Not *Eustachys* Desv. 1810

Veronicastrum virginicum (L.) Farwell, Drugg. Circ. 61: 231. 1915

Beaumont's, Bowman's or Culver's root

Veronica virginica L. Sp. Pl. 9. 1753

Veronicastrum album Moench, Meth. 437. 1794

Callistachya virginica Raf., l.c.

Paederota virginica Torr. Fl. N. Y. 2: 44. 1843

In meadows, moist open woods and thickets. Infrequent across the State south of the Adirondacks. Increasingly common southward.

Forma *villosa* (Raf.) Pennell, *Rhodora* 23: 6. 1921 (*Leptandra villosa* Raf. Med. Fl. 2: 21. 1830), has not been observed in New York, to our knowledge.

DIGITALIS (Tourn.) L. Sp. Pl. 621. 1753

1 *Digitalis purpurea* L. Sp. Pl. 621. 1753

Purple foxglove, thimbles, fairy cap

Native of Europe and locally escaped from cultivation, sometimes established. Var. *albiflora* G. Don, with white flowers, less frequent as an escape.

2 *Digitalis lanata* Ehrh. Beitr. 7: 152. 1792

Native of central and southern Europe. Occasional in cultivation and rarely escaped to roadsides. Near Canandaigua, *Mrs E. O. Cartwright* (Proc. Rochester Acad. 3: 89. 1896). Near Rochester, *John Dunbar*.

BUCHNERA L. Sp. Pl. 630. 1753

Buchnera americana L., l.c. Bluehearts

In sandy or gravelly soil. Rare in the valley of the Chenango river, southward and westward.

Chenango valley, *Kneiskern*; Gorham, Ontario county, *Sartwell*; Rochester, *Z. H. Harris*; banks of Genesee river, Greece, Monroe county, *Bradley* (Paine, Cat. Pl. Oneida Co. 108. 1865). Gorham, Ontario county, *Gray*; Genesee river, *Bradley* (Torrey, Fl. N. Y. 2: 39. 1843; Proc. Rochester Acad. 3: 91. 1896). Rochester, *Baxter*. Perinton, Monroe county, *Bishop* (Proc. Rochester Acad. 5: 25. 1910).

AUREOLARIA Raf. New Fl. 3: 58. 1837

Panctenis Raf., l.c. 60

Dasystema Raf.; Britton & Brown, Illus. Fl. Ed. 2, 3: 205. 1913 (Not *Dasystema* Raf. 1819 which is *Seymeria macrophylla* Nutt.)

1 *Aureolaria pedicularia* (L.) Raf. New Fl. 2: 61. 1837

Fern-leaved or lousewort false foxglove, feverweed

Gerardia pedicularia L. Sp. Pl. 611. 1753

Dasystema pedicularia Benth. in DC. Prodr. 10: 521. 1846

In dry woods and thickets. Common on Long Island and Staten Island, and across the State southward. Rare northward to Rensselaer, Schenectady and Monroe counties.

2 *Aureolaria glauca* (Eddy) Raf., l.c. 60

Smooth false foxglove

Gerardia glauca Eddy, in Med. Repos. N. Y. Ind. Hexade, 5: 126. 1807.

G. quercifolia Pursh, Fl. Am. Sept. 423. 1814

D. quercifolia Benth., l.c. 520

G. integrifolia Gray, Man. 307. 1848

D. flava Wood, Classbook 529. 1861. (Not *Gerardia flava* L.)

G. virginica Britton, Prel. Cat. N. J. Pl. 40. 1888

D. virginica Britton, Torr. Club Mem. 5: 295. 1894. (Not *Rhinanthus virginicus* L.)

In dry or moist woods. Common on Long Island and Staten Island and locally frequent northward to Albany, Saratoga, Schenectady, Oneida and Monroe counties. Reported from Lewis county.

- 3 *Aureolaria virginica* (L.) Pennell, Torr. Club Bul. 40: 408.
1913 Downy false foxglove

Rhinanthus virginicus L. Sp. Pl. 603. 1753

Gerardia flava L., l.c. 610

G. villosa Muhl. Cat. 58. 1813

G. heterophylla Muhl., l.c.

G. pubescens Benth., l.c. 520

Gerardia virginica Kuntze, Rev. Gen. Pl. 460. 1891

D. flava Britton & Brown, Illus. Fl. ed. 2, 3: 206. 1913. Not Wood

In dry woods and thickets. Frequent or common in the southeastern and the western portions of the State, and along the southern border adjacent to Pennsylvania. Rare northward to Ulster, Otsego, Oneida and Monroe counties.

AGALINIS Raf. New Fl. 2: 61. 18. 1836

- 1 *Agalinis purpurea* (L.) Pennell, Torr. Club Bul. 40: 126.
1913 Large purple gerardia

Gerardia purpurea L. Sp. Pl. 610. 1753

A. palustris Raf., l.c. 62

In moist fields and meadows and in marshes. Common on Long Island and Staten Island and northward to Columbia county.

Reports of this species farther northward and westward in the State are apparently erroneous. Forma *albiflora* (Britton) House, N. Y. State Mus. Bul. 243-244: 55. 1923 [*G. purpurea* var. *albiflora* Britton, Torr Club Bul. 17: 125. 1890], occasional on the salt marshes of Long Island.

- 2 *Agalinis virgata* Raf. New Fl. 2: 62. 1837

G. racemulosa Pennell, Torrey 11: 15. 1911

In moist sandy pine-barrens, or occasionally in open sand in the pine-barren region of Long Island and southward. Seemingly rare. Great River, Suffolk county, *Bicknell*.

- 3 *Agalinis paupercula* (A. Gray) Britton; Britton & Brown, Illus.
Fl. ed. 2, 3: 210. 1913 Small-flowered gerardia

G. purpurea var. *paupercula* Gray, Syn. Fl. 2: 293. 1878

G. intermedia Porter; Gray, l.c., as syn.

G. paupercula Britton, Torr. Club Mem. 5: 295. 1894

In bogs and low meadows. Infrequent or rare. Apparently confined to the Ontario lowlands, the St Lawrence basin, and in southeastern New York.

Rare on the north shore of Long Island, rare on Staten Island; Copake Falls, Columbia county, *Taylor* (Fl. Vic. N. Y. 559. 1915). Farley's Point, Cayuga lake, and Junius marshes, Seneca county, *Dudley* (Cayuga Flora 69. 1886, as *purpurea*). Mendon, Monroe

county, *Macauley & Beckwith*; Bergen swamp, *Baxter*; (Proc. Rochester Acad. 3: 91. 1896). Shores of Lake Ontario and St. Lawrence river from Irondequoit Bay, *Holzer*, to Alexandria Bay, *Paine* (Cat. Pl. Oneida Co. 108. 1865). Mud lake near Hannibal, Oswego county, *C. S. Sheldon*. Canton and Norfolk, St. Lawrence county, *Mrs O. P. Phelps*. Long pond, Monroe county; marshes along shore of Lake Ontario at Woodville, Jefferson county, *House*.

4 *Agalinis maritima* Raf. New Fl. 2: 62. 1836

Seaside or saltmarsh gerardia

G. maritima Raf. Med. Repos. (II) 5: 361. 1808

G. purpurea var. *crassifolia* Pursh, Fl. Am. Sept. 422. 1814

G. crinita Eddy; Eaton, Man. ed. 2, 257. 1818

Common in the salt marshes along the coast of Long Island and Staten Island, and rarely along the Long Island Sound shore of Westchester county.

5 *Agalinis tenuifolia* (Vahl) Raf. New Fl. 2: 64. 1837

Slender gerardia

G. tenuifolia Vahl, Symb. Bot. 3: 79. 1794

In dry woods, thickets, hillsides and fields. Locally frequent across the State outside of the Adirondacks, and increasingly common southward in the State.

Reported northward to Rensselaer, Saratoga, St Lawrence, Onondaga and Monroe counties. Forma *albiflora* (Britton) House, l.c. 62 (*G. tenuifolia* var. *albiflora* Britton, Torr. Club Bul. 17: 125. 1890), is occasional throughout the range of the species.

6 *Agalinis Besseyana* Britton; Britton & Brown, Illus. Fl. ed. 2. 3: 211. 1913

Bessey's gerardia

G. tenuifolia var. *macrophylla* Benth. Comp. Bot. Mag. 1: 209. 1835

G. Besseyana Britton, Torr. Club Mem. 5: 295. 1894

G. lancifolia Greene, Pittonia 4: 100. 1899

In moist or dry, usually sandy fields and thickets. Washington county, *Burnham*. Albany, *House*. Perhaps adventive from the West.

Doctor Pennell regards this as a form of *A. tenuifolia*, but the scabrous-pubescent leaves, larger corollas and more pointed lobes to the calyx are good distinguishing characters.

7 *Agalinis acuta* Pennell, Torr. Club Bul. 42: 338. 1915

In dry sandy soil or sandy depressions, on the south side of Long Island and on the Hempstead Plains.

This includes material which has heretofore been variously referred to *A. skinneriana* and to *A. parvifolia*.

8 *Agalinis Holmiana* (Greene) Pennell, Torr. Club Bul. 40: 429.
1913 Holm's gerardia

G. Holmiana Greene, Pittonia 4: 52. 1899

In dry sandy woods. Rare on Long Island. Referred to *A. setacea* (Walt.) Raf. in second edition of the Illustrated Flora.

CASTILLEJA Mutis; L. f. Suppl. 47. 1781

Castilleja coccinea (L.) Spreng. Syst. 2: 775. 1825

Scarlet painted cup, Indian paintbrush

Bartsia coccinea L. Sp. Pl. 602. 1753

Euchroma coccinea Nutt. Gen. 2: 55. 1818

In meadows and moist thickets. Rare but widely distributed across the southern and western portions of the State. Apparently formerly more abundant than at present.

Reported from Long Island, rare on Staten Island, unknown in the Bronx, thence increasing but not common northward, *Taylor* (Fl. Vic. N. Y. 560. 1915). Astoria, *Leggett*; Glen Cove, *Coles*; Staten Island, *LeRoy* (Torr. Club Bul. 2: 21. 1871). Oneida lake, *Gray*; Eaton, Madison county, *Bradley*; Penn Yan, Ontario county, *Sartwell*; Greece, Monroe county, *Bradley* (Paine, Cat. Pl. Oneida Co. 109. 1865). Springwater, Livingston county, *D. B. Waite* (38th Rep't N. Y. State Mus. 107. 1885). Silver Lake, Staten Island, *Britton*. Onondaga Valley, *Beauchamp*. Painted Post, Steuben county, *Dudley*. Junius, *Miss S. A. Little*, 1884. Formerly frequent about Irondequoit bay, now scarce; Greece, *Bradley*; Scottsville, Maxwell's Station and Caledonia, *Beckwith* (Proc. Rochester Acad. 3: 91. 1896). Aurora, *Thompson*, 1842; and formerly [1860] at Ithaca, *Dudley*.

SCHWALBEA (Gronov.) L. Sp. Pl. 606. 1753

Schwalbea americana L., l.c.

Chaff-seed

In wet sandy soil, Albany county.

Between Albany and Schenectady, near Center (now Karner) Station, *Beck* (in state herbarium), *Paine* (Cat. Pl. Oneida Co. 109. 1865), *Peck* (N. Y. State Mus. Bul. 139: 36. 1910). The locality where formerly collected has been cut over and burned, and unless found in nearby spots, the station is extinct.

PEDICULARIS (Tourn.) L. Sp. Pl. 607. 1753

1 *Pedicularis lanceolata* Michx. Fl. Bor. Am. 2: 18. 1803

Swamp lousewort

P. virginica Poir. Enc. Meth. 5: 126. 1804

P. asplenifolia Muhl. Trans. Am. Phil. Soc. 3: 173. 1793, (name only)

P. auriculata J. E. Smith, in Rees Cyclop. 26: No. 4. 1814

P. pallida Nutt. Gen. 2: 50. 1818

In swamps and marshy places. Infrequent or rare from Rensselaer county westward to Lake Ontario and Lake Erie, southward, outside of the higher Catskills and the uplands of Central New York.

Rensselaer, *House*. Tarrytown, *J. H. Hall*; Glenville, Schenectady county; Madison county, *Pearson*; Rochester, *Booth*; western counties, *Kneiskern* (Paine, Cat. Pl. Oneida Co. 109. 1865). Banks of Genesee river, *Fuller*; Irondequoit Bay, *Booth*, *Holzer*; Caledonia; Turk's Hill, *Gannett* (Proc. Rochester Acad. 3: 91. 1896; 5: 94. 1917). Van Cortlandt Park, New York City, *House*. Rare on Long Island and Staten Island and in the Bronx, *Taylor* (Fl. Vic. N. Y. 561. 1915).

2 Pedicularis canadensis L. Sp. Pl. 86. 1753

Wood or head betony, lousewort

P. gladiata Michx. Fl. Bor. Am. 2: 18. 1803

In dry or moist woods and thickets. Common in most sections of the State.

RHINANTHUS L. Sp. Pl. 603. 1753

Rhinanthus Crista-Galli L. Sp. Pl. 603. 1753

Rattle, yellow or penny rattle

R. minor Ehrh. Beitr. 6: 44. 1791

Rare on the subalpine summits of the higher Adirondacks.

Summit of Haystack mountain, *Peck* (27th Rep't N. Y. State Mus. 112. 1877). Summit of Mount Marcy, *Peck* (23d Rep't 50. 1872; 52d Rep't 668. 1899). Our form of this variable species is described as *R. oblongifolius* by Fernald [See Gray's Man. ed. 7, 735. 1908].

MELAMPYRUM (Tourn.) L. Sp. Pl. 605. 1753

Melampyrum lineare Lam. Encycl. 4: 22. 1797 Cow wheat

In dry or moist woods, thickets and openings. Common in most section of the State. In the Adirondacks on the summit of Mount McIntyre, *Peck* (N. Y. State Mus. Bul. 28: 117. 1899).

Var. *latifolium* (Muhl.) Beauverd, Mem. Soc. Phys. Geneve 38: 474. 1916 (*M. americanum* Michx. Fl. Bor. Am. 2: 16. 1803. *M. latifolium* Muhl. Cat. 57. 1813; Eaton, Bot. 316. 1818; *M. lanceolatum* Raf. Aut. Bot. 160. 1840), with broader leaves, is the more common form southward.

EUPHRASIA (Tourn.) L. Sp. Pl. 604. 1753

Euphrasia stricta Host. Fl. Austr. 2: 185. 1813 Eyebright

Near Waddington, St Lawrence county, *Mrs O. P. Phelps*, 95.

Family 25 **PINGUICULACEAE** Dumort. Anal. Fam. 19, 23. 1829
(*Utriculariaceae* Dumort.; *Lentibulariaceae* Lindl.)

Bladderwort family

PINGUICULA (Tourn.) L. Sp. Pl. 17. 1753

Pinguicula vulgaris L., l.c.

Butterwort, bog violet

On wet rocks and gravelly places. Very rare.

Cascadilla ravine, Ithaca, *Prentiss*; Portage, *G. W. Clinton* (28th Rep't N. Y. State Mus. 83. 1876). Genesee Falls, *Torrey* (Fl. N. Y. 2: 18. 1843). Rochester, *Dewey*, *Carey*, *Harris*, *Bradley*; no longer growing at Rochester, but reported from Portage, *Dewey* (Paine, Cat. Pl. Oneida Co. 106. 1865). The *Carey* specimen in Sartwell herbarium, dated June 22, 1836. Sidney, Otsego county, *Hoy* (Clute, Fl. Upper Susquehanna 83. 1898). Mount Morris, Livingston county, *Streeter* (Proc. Rochester Acad. 3: 92. 1896). Cascadilla creek, *Jordan*, 1869; and Taughannock, *Dudley* (Cayuga Fl. 70. 1886).

UTRICULARIA L. Sp. Pl. 18. 1753

Section 1 *Lentibularia* Gesn.

1 *Utricularia gibba* L., l.c.

Humped or swollen-spurred bladderwort

U. fornicata LeConte, Ann. Lyc. N. Y. 1: 76. 1824

In shallow water. Infrequent or rare across the State south of the Adirondacks.

Woodhaven, Long Island, *Ruger*; East Hampton, *Allen*; West Hampton, *Merriam* (Torr. Club Bul. 2: 20. 1871). Hidden lake, Herkimer county; Whitesboro, Oneida county, *Douglas*, *Houghton* (Paine, Cat. Pl. Oneida Co. 106. 1865). Mendon ponds, Monroe county, *Fish*, *Fuller* (Proc. Rochester Acad. 3: 92. 1896). Peterboro, Madison county, *House*.

2 *Utricularia pumila* Walt. Fl. Cat. 64. 1788

Two-flowered bladderwort

U. biflora Lam. Ill. 1: 50. 1701

U. longirostris LeConte; Ell. Fl. S. C. & Ga. 1: 21. 1816

U. macrorhyncha Barnhart, Torr. Club Bul. 25: 515. 1898

In shallow water. Chiefly south of our borders. Known in this State from a collection by *Peck*, at Smithtown, Long Island.

3 *Utricularia fibrosa* Walt. Fl. Car. 64. 1788

Fibrous bladderwort

U. striata LeConte; Torr. Cat. Pl. N. Y. 89. 1819; Fl. N. Y. 2: 21. 1843

Uncommon in shallow water. Long Island southward.

New York, *LeConte*; Long Island, *Willis* (Torrey, l.c.). Wading River, *E. S. Miller* (25th Rep't N. Y. State Mus. 70. 1873). Taylor (Fl. Vic. N. Y. 563. 1915) states that it is common on Long Island.

4 *Utricularia intermedia* Hayne, in Schrad. Jour. Bot. 1800: 18. 1801 Flat-leaved bladderwort

U. millefolium Nutt.; Torrey, Fl. N. Y. 2: 21. 1843

In shallow water, generally distributed throughout the State, but only locally common.

Watertown, Jefferson county, *Crawe*; Hidden lake and Litchfield, Herkimer county, *Paine* (Cat. 106. 1865). Beaver lake, Lewis county, *Gilbert* (Torr. Club Bul. 6: 362. 1879). Oxford, Chenango county, *Coville*. Summit marsh, *Dudley*. Rare, Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 92. 1896). Bowman's lake, Sandlake, Rensselaer county, *Peck*. Mud lake, Hannibal, Oswego County, *House*. Paddy lake, Oswego county, *Sheldon*. Lily marsh, Oswego county, *House*. Pecksport, Madison county, *House*. North Elba, Essex county, *Peck*. Newcomb, Essex county, *House*. Reported from Wading River, Long Island, by *E. S. Miller*.

5 *Utricularia minor* L. Sp. Pl. 18. 1753 Lesser bladderwort

In shallow water. Infrequent or rare but widely distributed across the State.

New Lots, *G. B. Brainerd* (Torr. Club Bul. 2: 18. 1871). Swamps in Jefferson county, *Crawe*; Hidden lake, Herkimer county, *Paine* (Cat. 106. 1865). Ponds near Albany and Schenectady, *Beck & Tracy* (Torrey, Fl. N. Y. 2: 21, 22. 1843). Tappan, *C. F. Austin*. Hannibal, Oswego county, *House*. Lily marsh, Oswego county, *Sheldon*. Tooley pond, Clare, St Lawrence county, *Mrs O. P. Phelps*.

6 *Utricularia clandestina* Nutt.; Gray, Man. 287. 1848 Hidden-fruited bladderwort

U. striata Tuckerman, Am. Jour. Sci. 14: 20. 1843. Not LeConte
? *U. geminiscapa* Benj. Linnaea 20: 305. 1847

In shallow water. Rare.

Wetmore's pond, Herkimer county, *Paine* (Cat. 106. 1865). Kasoag marshes, Oswego county, *Peck* (53d Rep't N. Y. State Mus. 851. 1900). Tottenville, Staten Island, *Leggett* (Torr. Club. Bul. 2: 20. 1871). Wading River, Long Island, *E. S. Miller* (Torr. Club Bul. 7: 17. 1880).

7 *Utricularia macrorhiza* LeConte, Ann. N. Y. Lyc. 1: 73. 1824 Greater bladderwort, hooded water milfoil

U. vulgaris Torrey, Fl. N. Y. 2: 20. 1843. Not L.
U. vulgaris var. *americana* A. Gray, Man. ed. 5, 318. 1867

In stagnant water, slow streams and ponds. Frequent or common or at least locally so, throughout most sections of the State, and in the Adirondacks to 2000 feet altitude.

The observations of E. S. Miller upon the time of blooming of the species on Long Island, are worth repetition. *U. minor* and *U. intermedia* bloom early, in June or July, while *U. purpurea*, *U. resupinata*, *U. inflata*, *U. gibba*, *U. macrorhiza*, *U. cornuta* and *U. fibrosa* Walt. bloom later, from the last of July on into September.

Section 2 Megacista DC.

8 *Utricularia radiata* Small, Fl. SE. U. S. 1090. 1903

Small swollen bladderwort

U. inflata Bigel. Fl. Bost. 8. 1824; Torrey, Fl. N. Y. 2: 19. 1843. Not Walt.
U. inflata var. *minor* Chapm. Fl. So. U. S. 282. 1860
U. ceratophylla Michx. Fl. Bor. Am. 1: 12. 1803; LeConte, Ann. Lyc. N. Y. 1: 73. 1824

In ponds, eastern and southern New York. Rare.

Ponds near Albany, *Beck* (State Herbarium). Ponds on Long Island, *Torrey*. Long Island, *C. F. Austin*. Wading River, *E. S. Miller* (Torr. Club Bul. 2: 40. 1871).

Section 3 Vesiculina (Raf.)

Vesiculina Raf. Fl. Tellur. 4: 109. 1838

9 *Utricularia purpurea* Walt. Fl. Car. 64. 1788

Purple bladderwort

U. saccata LeConte; Ell. Bot. S. C. & Ga. 1: 21. 1816
V. saccata Raf., l.c.
V. purpurea Raf., l.c.

On muddy or wet shores of small lakes and ponds. Frequent in the Adirondack region and on eastern Long Island. Elsewhere rare and local.

Long Island, *G. B. Brainerd* (Torr. Club Bul. 2: 20. 1871). Wading River, *E. S. Miller* (Torr. Club Bul. 2: 40. 1871). Beaver lake, Lewis county, *B. D. Gilbert* (Torr. Club Bul. 6: 362. 1879). Woodruff pond and Lake Harris, Essex county, *House*. Hewitt pond, Essex county, *House*. Tooley pond, Clare, St Lawrence county, *Mrs O. P. Phelps*.

Section 4 Lenticula (Barnhart)

Lenticula Barnhart; in Britton & Brown, Illus. Fl. ed. 2, 3: 230. 1913

10 *Utricularia resupinata* B. D. Greene; Bigel, Fl. Bost. ed. 3, 10. 1840

Reclined bladderwort

U. Greenei Oakes, in Hovey's Mag. Hort. 7: 180. 1841
L. resupinata Barnhart, l.c.

Margins of ponds and lakes. Frequent and widely distributed throughout the Adirondack region and the northern part of the State.

Utica, *Kneiskern* (Torrey, Fl. N. Y. 2: 22. 1843, in footnote

under *U. minor*). North woods, *Gilbert*, and mossy sloughs at Fenton's tract, Lewis county, *Mrs Charles Barnes* (Torr. Club Bul. 6: 352. 1879). Lewis county, *Gilbert* (Torr. Club Bul. 6: 362. 1879). Beaver lake, Lewis county, *Tweedy* (Torr. Club Bul. 7: 19. 1880). Big Moose lake, Herkimer county, and Twitchell lake, Herkimer county, *Tweedy* (Torr. Club Bul. 7: 19. 1880). Lake Jimmy and Lake Sallie, Essex county, *Peck* (30th Rep't N. Y. State Mus. 68. 1878). Mendon ponds, Monroe county, *Baxter* (Proc. Rochester Acad. 3: 92. 1896). Hannibal, Oswego county, *Sheldon*. Lake Harris, Essex county, *House*. Wading River, Long Island, *E. S. Miller* (Torr. Club Bul. 2: 40. 1871).

Section 5 *Setiscapella* (Barnhart)

Setiscapella Barnhart, l.c. 230

11 *Utricularia subulata* L. Sp. Pl. 18. 1753

Zigzag or tiny bladderwort

U. setacea Michx. Fl. Bor. Am. 1: 12. 1803

S. subulata Barnhart, l.c.

In wet sandy soil, chiefly on or near shores. Rare.

Riverhead, Long Island, *Miller* (Torr. Club Bul. 6: 58. 1878). Fort Edward, *Vandenburg* (Peck, in 31st Rep't N. Y. State Mus. 30. 1879). Whitesboro, Oneida county, *Gates* (Beck herbarium).

U. cleistogama (A. Gray) Britton, Trans. N. Y. Acad. 9: 12. 1889

U. subulata var. *cleistogama* Gray, Syn. Fl. 2¹: 317. 1878

S. cleistogama Barnhart, l.c.

Apparently a form of the preceding species, due to arrested development. Reported from Long Island (*Burnham & Latham*, *Torrey* 14: 250. 1914; *Taylor*, Fl. Vic. N. Y. 564. 1915).

Section 6 *Oligocista* DC.

Stomoisia Raf. Fl. Tellur. 4: 108. 1838

12 *Utricularia cornuta* Michx. Fl. Bor. Am. 1: 12. 1803

Horned bladderwort

S. cornuta Raf., l.c.

On wet borders of ponds, or in bogs. Locally common across the State northward. Less frequent or rare southward to Rensselaer county, central New York, in Herkimer, Oneida, and westward to Seneca, Oswego and Wayne counties. Frequent on eastern Long Island. Not reported from Staten Island or from the southern tier of counties bordering on Pennsylvania.

13 *Utricularia juncea* Vahl, Enum. 1: 202. 1804

Rush bladderwort

U. personata LeConte; Ell. Bot. S. C. & Ga. 1: 23. 1816

S. juncea Barnhart, l.c. 232

Riverhead, Long Island. The only station reported in this State.

14 *Utricularia virgatula* Barnhart, Torr. Club Bul. 34: 580. 1908
Fairy-wand bladderwort

S. virgatula Barnhart, in Britton & Brown, Illus. Fl. ed. 2, 3: 232. 1913

Reported from Riverhead, Long Island, *Barnhart*, and from Woodmere, Nassau county, *Bicknell*.

Family 26 **OROBANCHACEAE** Lindl. Nat. Syst. ed. 2, 287. 1836

Broomrape family

APHYLLON Mitchell, Diss. Brevis Prim. Bot. & Zool. 1769

Thalesia Raf. Am. Mo. Mag. 2: 267. 1818

Loxanthes Raf. Neogen. 3. 1825

Anoplanganthus Endl. Icon. Gen. Pl. 12. pl. 72. 1838

Aphyllon uniflorum (L.) T. & G.; A. Gray, Man. 290. 1848

Pale or naked broomrape, one-flowered broomrape

Orobanche uniflora L. Sp. Pl. 633. 1753

O. biflora Nutt. Gen. 2: 59. 1818

A. uniflorus Endl., l.c.

Thalesia uniflora Britton, Torr. Club Mem. 5: 298. 1894

In woods and thickets. Infrequent but widely distributed across the State, chiefly south of the Adirondack region, but apparently not in the Catskills.

OROBANCHE (Tourn.) L. Sp. Pl. 632. 1753

Orobanche minor J. E. Smith, Engl. Bot. pl. 422. 1797

Lesser or clover broomrape

Parasitic on the roots of clover. Reported from New York southward. Naturalized from Europe, and rare in this State.

CONOPHOLIS Wallr. Orobanch. 78. 1825

Conopholis americana (L.f.) Wallr., l.c. Squawroot, cancerroot

Orobanche americana L. f. Suppl. 88. 1767

In rich woods at or near the base of trees. Infrequent or locally common across the State south of the Adirondacks, but not reported from Long Island and very rare on Staten Island.

LEPTAMNIUM Raf. Am. Mo. Mag. 2: 267. 1818

Epifagus Nutt. Gen. 2: 60. 1818

Leptamnium virginianum (L.) Raf.; A. Gray, Syn. Fl. 2¹: 314.

1878 (as synonym).

Beechdrops

Orobanche virginiana L. Sp. Pl. 633. 1753

Epifagus americana Nutt., l.c.

E. virginiana Bart. Comp. Fl. Phila. 2: 50. 1818

In woods, especially under beech trees. Frequent throughout most sections of the State, where the beech grows. Rare on Long Island.

Family 27 **BIGNONIACEAE** Pers. Syn. 2: 168. 1807

Trumpet creeper family

BIGNONIA L. Sp. Pl. 633. 1753

Gelsemium [Weinm. 1742] Kuntze, Rev. Gen. Pl. 479. 1891

Bignonia radicans L., l.c. 624. Trumpet flower, trumpet creeper

Tecoma radicans DC. Prodr. 9: 223. 1845

Campsis radicans Seem. Jour. Bot. 5: 362. 1867

G. radicans Kuntze, l.c.

Native from southern New Jersey and Pennsylvania southward. Common in cultivation in many parts of New York and occasionally escaped or established, especially in the southern part of the State.

CATALPA Scop. Introd. 170. 1771

Catalpa Catalpa (L.) Karst. Deutsch. Fl. 927. 1882

Catalpa, Indian or smoking bean, candletree

Bignonia Catalpa L. Sp. Pl. 622. 1753

C. bignonioides Walt. Fl. Car. 64. 1788

Native of the Gulf States. Common in cultivation and established northward to southern and central New York.

Catalpa speciosa Warder., common in cultivation, has more showy flowers, but is less inclined to become established eastward. Native of the Mississippi valley.

Family 28 **MARTYNIACEAE** Link, Handb. 1: 504. 1829

Unicorn plant family

MARTYNIA L. Sp. Pl. 618. 1753

Martynia louisiana Mill. Gard. Dict. ed. 8, No. 3. 1768

Unicorn plant, elephant's trunk

M. proboscidea Glox. Obs. 14. 1785

In waste places. Occasional in cultivation and sometimes escaped, but rarely long persistent except in southern New York. Native of the Mississippi valley from Indiana to Iowa, Utah, Texas and New Mexico.

On the Hudson above Albany *Torrey* (Fl. N. Y. 2: 26. 1843) Greenbush, 1827; Lewiston, Niagara county, 1863, *G. W. Clinton* (19th Rep't N. Y. State Mus. 200. 1866).

Sesamum indicum L. Sp. Pl. 634. 1753. Native of tropical regions, has been found as a waif on Staten Island, *Hollick* (*Torreya* 22: 3. 1922).

Family 29 **ACANTHACEAE** J. St. Hill. Expos. Fam. 1: 236. 1805

Acanthus family

DIANTHERA L. Sp. Pl. 27. 1753

Dianthera americana L., l.c. Dense-flowered water willow

Justicia americana Willd. Sp. Pl. 1: 92. 1797

J. pedunculosa Michx. Fl. Bor. Am. 1: 7. 1803

D. ensiformis Walt. Fl. Car. 63. 1788

In shallow water, edges of ponds, lakes, streams and in swamps and marshes. Locally common across the State south of the Adirondack mountains. Not found on Long Island and reported as rare on Staten Island. Not known from the Hudson valley and apparently very rare east of Oneida and Orange counties.

Family 30 **PHRYMACEAE** Schauer in DC. Prodr. 11: 520. 1847

Lopseed family

PHRYMA L. Sp. Pl. 601. 1753

Phryma Leptostachya L., l.c. Lopseed

In woods and thickets. Common throughout most sections of the State, but very rare on the coastal plain of Long Island.

Family 31 **PLANTAGINACEAE** Lindl. Nat. Syst. ed. 2, 267.

1836

Plantain family

PLANTAGO (Tourn.) L. Sp. Pl. 112. 1753

1 *Plantago major* L., l.c.

Common or greater plantain, dooryard plantain

In waste places, fields, meadows and sometimes in open woods. Common in most sections of the State. Regarded as in part indigenous, but largely introduced and naturalized from Europe.

Var. *intermedia* (Gilib.) Decne, in DC. Prodr. 13: 700. 1849

P. intermedia Gilibert, Pl. Europ. 1: 125. 1785

P. halophila Bicknell, in Britton, Man. 1051. 1901

Common in and about the borders of salt marshes along the coastal region of southeastern New York, also inland at Oneida lake, *House*; Onondaga lake, *Sheldon*, Saranac lake, *Peck* (N. Y. State Mus. Bul. 67: 20. 1903), and numerous other localities, mostly on shores or in saline soil across the State.

Var. *asiatica* (L.) Decne, l.c.

P. asiatica L. Sp. Pl. 113. 1753

Infrequent across the northern part of the State. Racquette lake, Peck.

2 *Plantago Rugellii* Decne, l.c.

Rugel's or pale plantain, whiteman's foot

In fields, woods and waste places. Frequent or locally common across the State, chiefly south of the Adirondacks.

3 *Plantago lanceolata* L. Sp. Pl. 113. 1753

Rib-grass, lance-leaved or narrow-leaved plantain

In fields, open woods and waste places. Very common, usually as a weed. Naturalized from Europe.

Var. *sphaerostachya* Mert. & Koch, in Roehling, Deutschl. Fl. 1: 803. 1823. Spike at beginning of anthesis subglobose, rounded to apex, in fruit subglobose to cylindric and obtuse, 0.5-2.3 cm long; leaf-blades mostly narrower and shorter than typical *P. lanceolata*, which has spikes narrowly ovoid-conic and tapering to apex, cylindric and obtuse in fruit, 1.5-8 cm long and leaves glabrous or nearly so (cf. Fernald, Rhodora 24: 203. 1922).

Whitney's Point, Broome county, Peck, Long Island, House, and doubtless elsewhere.

4 *Plantago media* L. l.c. 113

Lamb's tongue

In waste places. Infrequent. Naturalized from Europe.

Ithaca, Dudley (41st Rep't N. Y. State Mus. 57. 1888). Canandaigua, Webster (Proc. Rochester Acad. 5: 94. 1917). Southold, Long Island, Burnham & Latham (Torreya 14: 251. 1914).

5 *Plantago eriopoda* Torrey, Ann. Lyc. N. Y. 2: 237. 1827

Native of the western states. Reported as adventive at Brooklyn by Jelliff (Hulst, Torreya 4: 100. 1904).

6 *Plantago cordata* Lam. Tabl. Encyc. 1: 338. 1791

P. kentuckensis Michx. Fl. Bor. Am. 1: 94. 1803

Native of the central and western states. Recorded from New York Island and Fishkill (Torrey, Fl. N. Y. 1843), and Taylor (Fl. Vic. N. Y. 568. 1915), states that it was collected many years ago at Mattewan.

7 *Plantago gibbosa* Raf. Am. Mo. Mag. 2: 344. 1818

Sea or seaside plantain

P. decipiens Barneoud, Mon. Plantag. 16. 1845

P. maritima var. *juncoides* Gray, Man. ed. 5, 311

P. juncoides Wood, Classbook 507. 1861

In salt marshes and along the shores of Long Island and Staten Island and up the tidal streams and rivers of southeastern New York. Frequent or common. Often referred to the related but distinct *P. maritima* L.

8 *Plantago aristata* Michx. Fl. Bor. Am. 1: 95. 1803

Large-bracted plantain

P. patagonica var. *aristata* Gray, Man. ed. 2, 269. 1856

In dry, usually sandy fields and waste places. Locally common across the State south and west of the Adirondacks, and on Long Island. Perhaps in part naturalized from the West.

9 *Plantago virginica* L. Sp. Pl. 113. 1753

Dwarf or white dwarf plantain

In dry soil. Common in the southern and western sections of the State, northward to Saratoga, Oneida and Ontario and Erie counties.

10 *Plantago pusilla* Nutt. Gen. 1: 100. 1818. Slender plantain

? *P. pauciflora* Pursh, Fl. 99. 1814. Not Gilib.

P. maritima Barton, Prodr. Fl. Phila. 26. 1815. Not L.

In dry, usually sandy soil. Infrequent on the eastern end of Long Island and on Fisher's Island. Formerly on New York Island.

LITTORELLA L. Mant. 2: 295. 1771

Littorella uniflora (L.) Aschers. Fl. Brand. 544. 1864

Plantain shoreweed, shore grass

Plantago uniflora L. Sp. Pl. 115. 1753

L. lacustris L. Mant. 2: 295. 1771

On the Vermont side of Lake Champlain, *Pringle*; and hence to be expected in northern New York.

Family 32 **RUBIACEAE** B. Juss. Hort. Trian. 1759

Madder family

HOUSTONIA L. Sp. Pl. 105. 1753

1 *Houstonia coerulea* L., l.c. Bluets, innocence, eyebright

H. Linnaei var. *elatior* Michx. Fl. Bor. Am. 1: 85. 1803

Hedyotis coerulea Hook. Fl. Bor. Am. 1: 286. 1833

Oldenlandia coerulea A. Gray, Man. ed. 2, 174. 1856

In open, usually moist or rocky and grassy places, wet rocks or meadows. Common across the northern part of the State, but

inclined to be somewhat local in distribution southward and westward.

Less frequent westward and southward, especially outside of the mountains; reported but not definitely known on Long Island, and rare on Staten Island and in the Bronx.

Forma albiflora Millsp. (Fl. W. Va. 375. 1892), with white flowers, occurs in a few localities. This does not seem to be like the alpine white var. *Faxonorum* Pease & Moore (Rhodora 9: 210. 1907).

2 *Houstonia longifolia* Gaertn. Fruct. 1: 226. pl. 49. f. 8. 1788
Long-leaved houstonia

H. angustifolia Pursh, Fl. Am. Sept. 106. 1814. Not Michx.

H. obtusifolia Raf. Ann. Gen. Sci. Phys. 5: 226. 1820

Hedyotis longifolia Hook., l.c. 286

Houstonia purpurea var. *longifolia* Gray, Man. ed. 5, 212. 1868

In dry open places, often on rocks. Locally common across the northern part of the State, southward to the foothills of the Catskills, and the Hudson highlands. Less frequent westward across the State, and southward to the Hempstead plains of Long Island. Apparently rare in the southern tier of counties bordering on Pennsylvania.

3 *Houstonia canadensis* Willd.; R. & S. Syst. 3: 527. 1818
Fringed houstonia

H. ciliolata Torrey, Fl. U. S. 1: 173. 1824

Hedyotis ciliolata Torrey; Spreng. Syst. Cur. Post. 40. 1827

Anotis ciliolosa G. Don, Gen. Syst. 3: 535. 1834

Houstonia purpurea var. *ciliolata* A. Gray, l.c. 212

On rocks, rocky banks and shores. Rare from Jefferson county westward along the Great Lakes.

Goat Island, Niagara Falls, *Hadley*; Genesee river near Rochester, *Dewey*, *Carey*; shore of Lake Ontario and banks of Black river, *Kneiskern* (Torrey, Fl. N. Y. 1: 316. 1843). Gravelly hillsides along shore of Lake Ontario; Sackett's Harbor and banks of Black river, *Kneiskern*; old fort grounds at Oswego; Genesee falls, *Aiken*; Rochester, *Dewey* (Paine, Cat. Pl. Oneida Co. 89. 1865). *Caledonia*, *Mrs Matthews* (Proc. Rochester Acad. 3: 71. 1896). Oswego, *Wibbe*, *Sheldon*. Collins, Erie county, *Perkins*.

OLDENLANDIA (Tourn.) L. Sp. Pl. 119. 1753

Oldenlandia uniflora L., l.c. Clustered bluets

O. glomerata Michx. Fl. Bor. Am. 1: 83. 1803

Hedyotis glomerata Ell. Bot. S. C. & Ga. 1: 188. 1816

Edrastima uniflora Raf. Act. Soc. Linn. Bordeaux 6: 269. 1834

In low grounds. Rare in the southeastern part of the State.

Wading River, *E. S. Miller* (Torr. Club Bul. 2: 40. 1871).
Island of New York and near Brooklyn, *Torrey* (Fl. N. Y. 1: 317. 1843). Richmond and Tottenville, Staten Island, *Hollick & Britton* (Torr. Club Bul. 6: 259. 1878; 9: 150. 1882).

CEPHALANTHUS L. Sp. Pl. 95. 1753

Cephalanthus occidentalis L., l.c.

Buttonbush, butterbush, pond dogwood

In swamps, low grounds, borders of ponds, lakes and streams.
Frequent or common throughout most sections of the State.

MITCHELLA L. Sp. Pl. 111. 1753

Mitchella repens L., l.c.

Partridge-berry, twinberry, squawberry

In woods. Common or frequent throughout most sections of the State, but rare or absent in many parts of the sandy coastal plain.

Forma *leucocarpa* Bissell, with white fruits; occurs at Moravia, Cayuga county (Torr. Club Bul. 8: 111. 1881; 35th Rep't N. Y. State Mus. 145. 1884)

DIODIA L. Sp. Pl. 104. 1753

Diodia teres Walt. Fl. Car. 87. 1788

Rough buttonweed

Spermacoce diodina Michx. Fl. Bor. Am. 1: 82. 1803

In dry or sandy soil. Locally frequent on Long Island and Staten Island. Rare and apparently adventive northward to Monroe county, *Booth* (Proc. Rochester Acad. 5: 19. 1910).

RUBIA L. Sp. Pl. 109. 1753

Rubia tinctoria L., l.c.

European madder

Occasional in cultivation. Reported as established at Smith's Basin, Washington county, *Burnham* (N. Y. State Mus. Bul. 139: 29. 1910).

GALIUM L. Sp. Pl. 105. 1753

1 **Galium verum** L., l.c. 107

Yellow bedstraw

In waste places, fields and roadsides. Infrequent in several localities throughout the State, but apparently increasing. Naturalized from Europe.

2 **Galium tricornis** Stokes; With. Bot. Arr. Br. Pl. ed. 2, 1: 153. 1787

Rough-fruited corn bedstraw

In waste places and on ballast. An infrequent or rare adventive in southeastern New York.

3 **Galium Aparine** L., l.c. 108 Clevers, goose grass

In various situations. Apparently indigenous in marshes along the coastal region. Frequent as a weed across the State south of the Adirondacks, where doubtless in large part naturalized from Europe.

4 **Galium pilosum** Ait. Hort. Kew. 1: 145. 1789

Hairy bedstraw

G. puncticulosum Michx. Fl. Bor. Am. 1: 80. 1803

G. pilosum var. *puncticulosum* T. & G. Fl. N. Am. 2: 24. 1841

In dry or sandy soil, of open fields or thin woods. Frequent or locally common across the State outside of the higher Adirondacks and extreme northern section of the State.

A dwarfed specimen was described by Peck (46th Rep't N. Y. State Mus. 44. 1893) as var. **parvum**.

5 **Galium lanceolatum** Torrey, Fl. U. S. 168. 1824

Torrey's wild liquorice

G. circaezans var. *lanceolatum* Torr. Cat. Pl. N. Y. 23. 1819

G. Torreyi Bigel. Fl. Bost. ed. 2, 56. 1824

In dry woods. Frequent across the State below 2000 feet in the Adirondacks. Not reported from Long Island.

Peck (N. Y. State Mus. Bul. 2: 26. 1887), reports a form from Rensselaer county, with white flowers.

6 **Galium circaezans** Michx. Fl. Bor. Am. 1: 80. 1803.

Wild liquorice

G. brachiatum Muhl. Cat. 15. 1813

G. circaoides R. & S. Syst. 3: 256. 1818

G. boreale Walt. Fl. Car. 257. 1788. Not L.

In dry woods. Frequent throughout the State, except the higher elevations of the Adirondack region, and rare on the coastal plain.

Var. **glabrum** Britton (Torr. Club Bul. 24: 32. 1894), has been found at Whitehall, Washington county, Sandlake, Rensselaer county, and New Scotland, Albany county, Peck (46th Rep't N. Y. State Mus. 44. 1893), and is probably not rare across the State.

7 **Galium kamtschaticum** Steller; R. & S. Mant. 3: 186. 1827

Northern wild liquorice

G. Littellii Oakes; in Hovey's Mag. Hort. 7: 179. 1841

G. circaezans var. *montanum* T. & G. Fl. N. Am. 2: 24. 1841

Subalpine elevations of the Adirondacks.

Mount Marcy and Marcy trail, Essex county, Britton (Peck in 46th Rep't N. Y. State Mus. 21. 1893; Torr. Club Bul. 21: 31. 1894; 49th Rep't State Mureus 25. 1896). Indian Pass, House. Santanoni brook, House.

8 *Galium boreale* L. Sp. Pl. 108. 1753

Northern bedstraw

G. septentrionale R. & S. Syst. 3: 253. 1818*G. strictum* Torrey in Eaton, Man. ed. 2, 254. 1818

In rocky or gravelly soil, or along streams and shores of lakes. Frequent across the State northward, but rare south of the Hudson highlands and unknown on Long Island or Staten Island. Occasionally found in swamps, as in Bergen swamp, Genesee county.

9 *Galium triflorum* Michx. Fl. Bor. Am. 1: 80. 1803

Sweet-scented or fragrant bedstraw

G. cuspidatum Muhl. Cat. 15. 1813*G. brachiatum* Pursh, Fl. Am. Sept. 103. 1814*G. pennsylvanicum* Bart. Comp. Fl. Phila. 83. 1818. Not Muhl.

In woods and thickets. Generally common across the State, but less so southward, and rare on Long Island.

10 *Galium Mollugo*. L. Sp. Pl. 107. 1753

Wild madder

In fields and waste places. Locally frequent as a weed in southern New York and somewhat sparingly so northward and westward across the State. Naturalized from Europe.

11 *Galium erectum* Huds. Fl. Angl. 1: 56. 1762

In fields and waste places. Infrequent as a naturalized weed in various localities across the State. Native of Europe.

12 *Galium sylvaticum* L. Sp. Pl. ed. 2, 155. 1762

Wood bedstraw

In fields and thickets. A rare adventive, native of Europe. Pittsford, Monroe county, *Killip* (Proc. Rochester Acad. 5: 94. 1917). Trenton Falls, *Peck*.

13 *Galium tinctorium* L. Sp. Pl. 106. 1753

Stiff marsh bedstraw, wild madder

G. obtusum Bigel. Fl. Bost. ed. 2, 55. 1824*G. trifidum* var. *latifolium* Torr. Fl. N. & Mid. U. S. 78. 1826*G. trifidum* var. *tinctorium* T. & G. Fl. N. Am. 2: 22. 1841

In damp shady places, wet meadows or swamps, and thickets. Occasional or locally frequent across the State especially in the northern and eastern counties. Rare westward and on the coastal plain.

14 *Galium labradoricum* Wiegand, Rhodora 6: 21. 1904

Northern marsh bedstraw

G. tinctorium labradoricum Wiegand, Torr. Club Bul. 24: 398. 1897

In mossy bogs, and marshy shores of lakes and ponds. Common in northern and central New York. Less frequent southward to Columbia county and the Catskill mountain region, Chenango, Tompkins and Tioga counties, westward to Wayne and Wyoming counties. Perhaps of wider distribution.

15 *Galium trifidum* L. Sp. Pl. 105. 1753 Small bedstraw

In sphagnous bogs and cold marshes. Common across the State northward, in central New York and in most of the bogs of the Ontario lowlands. Infrequent or rare southward in the State, and not reported from south of the Catskill region.

16 *Galium Claytoni* Michx. Fl. Bor. Am. 1: 78. 1803

Clayton's bedstraw

G. trifidum Pursh, Fl. Am. Sept. 103. 1814; Torrey, Fl. N. & Mid. U. S. 78. 1824. Not L.

G. tinctorium Bigel. Fl. Bost. ed. 2, 54. 1824. Not L.

In swamps and damp, usually shaded places. Infrequent in the northern and central sections of the State. Rare westward and southward in the State.

17 *Galium palustre* L. Sp. Pl. 105. 1753. Marsh bedstraw

In damp shady or open places, often along roadsides and in ditches, or the margins of swamps. Frequent or locally common across the State northward. Infrequent southward, and south of the Hudson highlands, and in most of the southern tier of counties bordering on Pennsylvania. Reported from one locality on Long Island.

18 *Galium concinnum* T. & G. Fl. N. Am. N. Am. 2: 23. 1841

Shinning bedstraw

G. parviflorum Raf. Med. Repos. (II) 5: 360. 1808 ?

Chiefly south of our borders. The state herbarium contains a single specimen without definite locality indicated, but which is supposed to have been collected in southern New York.

19 *Galium asprellum* Michx. Fl. Bor. Am. 1: 78. 1803.

Rough bedstraw

G. pennsylvanicum Muhl. Cat. 15. 1813

G. spinulosum Raf. Prec. Decouv. 40. 1814

In moist soil. Common in most sections of the State, but infrequent or rare in most parts of Long Island and Staten Island.

SHERARDIA (Dill.) L. Sp. Pl. 102. 1753

Sherardia avensis L., l.c. Blue Field Madder. Herb Sherard.

In waste places. Occasional or rare as a weed. Adventive or naturalized from Europe. Rochester, *Vollertsen* (Proc. Rochester Acad. 5: 19. 1910).

ASPERULA L. Sp. Pl. 103. 1753

1 **Asperula arvensis** L., l.c.

In waste places on Staten Island, *Britton & Hollick* (Torr. Club Bul. 12: 39. 1885). Adventive from Europe.

2 **Asperula glauca** (L.) Bess. Enum. Pl. Volh. 7. 1821.

Bedstraw asperula

Asperula galloides Bieb. Fl. Taur. Cauc. 1: 101. 1808

Galium glaucum L. Sp. Pl. 107. 1753

A rare adventive in waste places. Native of Europe.

Family 33 **CAPRIFOLIACEAE** Vent. Tabl. 2: 593. 1799

Honeysuckle family

SAMBUCUS (Tourn.) L. Sp. Pl. 269. 1753

1 **Sambucus canadensis** L., l.c. Elder, elderberry

In moist soil. Common throughout the State, except at elevations of more than 3000 feet in the Adirondacks.

A form (forma **atroflavula** House, N. Y. State Mus. Bul. 243-244: 41. 1923) with dark yellow fruit is reported from near Rochester, *Dunbar* (Proc. Rochester Acad. 5: 18. 1910).

2 **Sambucus racemosa** L. Sp. Pl. 270. 1753 Red-berried elder

S. pubescens Pers. Syn. 1: 328. 1805

S. pubens Michx. Fl. Bor. Am. 1: 181. 1803

S. racemosa pubens House, Woody Pl. Western N. C. 32. 1913

In rocky or moist woodlands. Common across the State but less so southward and not reported from Long Island or Staten Island.

Forma **laciniata** (Koch) House, N. Y. State Mus. Bul. 243-244: 29. 1923

S. racemosa var. *laciniata* Koch; *S. racemosa* var. *dissecta* Britton

In woods at Indian Lake, Hamilton county, *Peck* (27th Rep't N. Y. State Mus. III. 1877).

Forma **leucocarpa** (T. & G.) House, l.c. 69 (var. *leucocarpa* T. & G.). In the Catskill mountains, according to *Torrey* (Fl. N. Y. 1: 302. 1843).

A form with yellow fruit, forma **xanthocarpa** House, l. c. 41, is reported from Monroe county, *Dunbar* (Proc. Rochester Acad. 5: 18. 1910).

VIBURNUM (Tourn.) L. Sp. Pl. 267. 1753

1 Viburnum alnifolium Marsh. Arb. Am. 102. 1785

Hobblebush, American wayfaring tree, mooseberry

V. lantanoides Michx. Fl. Bor. Am. 1: 179. 1803

V. Lantana var. *canadense* Pers. Syn. 1: 327. 1805

In moist or low woods. Common across the State northward, and westward to Lake Erie. Less frequent southward to the Pennsylvania border and to the Hudson highlands and locally in Westchester county.

Peck (52d Rep't N. Y. State Mus. 651. 1899) describes a form with pink flowers, forma **roseum** House.

2 Viburnum Opulus L. Sp. Pl. 268. 1753

Cranberry tree, wild guelder rose

V. trilobum Marsh. Arb. Am. 162. 1785

V. Opulus var. *americanum* Ait. Hort. Kew. 1: 373. Not *V. americanum* Mill.

V. Opulus edule Michx. Fl. Bor. Am. 1: 180. 1803

V. Opulus prima Michx., l.c.

V. edulum & *V. primina* Raf. Med. Repos. (II) 5: 354. 1808

V. Oxycoccus Pursh, Fl. Am. Sept. 203. 1814

In low woods and wet ground, often in wooded swamps. Common northward in the State. Less frequent or rare in the western counties and southward to the Pennsylvania border, and in the Hudson valley region southward to Dutchess county and the Catskill mountains.

3 Viburnum eradiatum (Oakes) House, Am. Mid. Nat. 7: 130.

1921

Few-flowered cranberry tree

V. pauciflorum Pylaie; T. & G. Fl. N. Am. 2: 17. 1841. Not Raf. Alsog. Am. 58. 1838

V. Opulus var. *eradiatum* Oakes, in Hovey's Mag. Hort. 7: 183. 1841

In cool mountainous woods and along shaded streams of the slopes of the higher Adirondacks, especially Mount Marcy, Mount McIntyre, Mount Clinton, Santanoni and a few other high elevations in the northern part of the State.

4 Viburnum acerifolium L. Sp. Pl. 268. 1753

Maple-leaved arrow-wood, dockmackie

In dry or moist woods and thickets. Common throughout most sections of the State, but rare or lacking in many portions of Long Island and Staten Island.

5 Viburnum affine Bush; Schneider, Ill. Handb. Laubh. 2: 649.

1911; Blake, Rhodora 20: 11-15. 1918 Downy-leaved arrow-wood

? *V. villosum* Raf. Med. Repos. II. 5: 361. 1808. Not Sw.

? *V. Rafinesquianum* Schult. Syst. 6: 630. 1820

V. pubescens of N. Y. reports, not Pursh

In rocky woods and on banks. Occasional or locally common from Lake Champlain and the eastern Adirondack foothills southward and westward across the State. On Long Island, known only from near Port Washington, *Taylor*. The New York form belongs to the var. *hypomalacum* Blake, l.c. 14.

6 *Viburnum dentatum* L. Sp. Pl. 268. 1753 Arrow-wood

V. dentatum var. *lucidum* Ait. Hort. Kew. 1: 372. 1789

V. dentatum var. *glabellum* Michx. Fl. Bor. Am. 1: 179. 1803

In moist soil, especially in swamps and along the borders of ponds and lakes. Common across the State and below 2500 feet altitude in the Adirondacks.

7 *Viburnum pubescens* (Ait.) Pursh, Fl. Am. Sept. 202. 1814
Veiny arrow-wood

V. dentatum var. *pubescens* Ait. Hort. Kew. 1: 372. 1789

V. venosum Britton, Man. 871. 1901

In moist thickets on the eastern portion of Long Island, where rare or infrequent.

8 *Viburnum cassinoides* L. Sp. Pl. ed. 2, 384. 1762
Withe-rod, wild rasin, Appalachian tea

V. nudum var. *cassinoides* T. & G. Fl. N. Am. 2: 14. 1841

V. pyrifolium Pursh, Fl. Am. Sept. 202. 1814

V. nudum Hook. Fl. Bor. Am. 1: 279. 1833. Not L.

In swamps and wet soil. Common throughout most sections of the State, but locally rare in some of the southern and southeastern portions.

Torrey (Fl. N. Y. 1: 304. 1843), seems to have confused the distribution, but not the descriptions of *V. nudum* (var. *Claytoni*) and *V. cassinoides*, ascribing the former to the northern and western portions of the State, and the latter to the cedar swamps of Long Island, while the reverse is true, at least as the species are now understood.

9 *Viburnum nudum* L. Sp. Pl. 268. 1753
Large or naked withe-rod

V. nudum var. *Claytoni* T. & G. Fl. N. Am. 2: 14. 1841

In swamps, especially cedar swamps on Long Island. Rare on the south side of Long Island and on Staten Island. Also reported from Woodlawn, New York City. Not known farther northward in the State.

10 **Viburnum Lentago** L. Sp. Pl. 268. 1753

Nanny berry, sheep berry, sweet viburnum

In rich, usually moist soil. Frequent across the State northward, except in the higher Adirondacks. Rare southward especially on Long Island and Staten Island.

Var. **sphaerocarpum** A. Gray; Fernald, *Rhodora* 10:86. 1908, with smaller, globose fruit. Rare.

V. Jackii Rehder (*Jour. Arnold Arb.* 2: 125. 1920), with characters intermediate between *V. lentago* and *V. prunifolium*, is regarded by Sargent (*Man.* ed. 2, 889. 1922) as a hybrid between those species.

11 **Viburnum prunifolium** L. Sp. Pl. 268. 1753

Black haw, stagbush, sloe

In dry soil. Frequent or common in the southeastern part of the State, except in the pine-barrens. Rare north and west of the Hudson highlands.

12 **Viburnum Lantana** L. Sp. Pl. 268. 1753 Wayfaring tree

Common in cultivation and rarely established. Native of Europe and Asia.

TRIOSTEUM L. Sp. Pl. 176. 1753

1 **Triosteum perfoliatum** L., l.c. Feverwort, horse gentian

T. majus Michx. *Fl. Bor. Am.* 1: 107. 1803

In rich soil in open woods, fields and thickets. Rare northward and westward across the State, but rather frequent southward on Long Island and Staten Island.

2 **Triosteum aurantiacum** Bicknell, *Torrey* 1: 26. 1901

Scarlet-fruited horse gentian

T. perfoliatum var. *aurantiacum* Wiegand, *Rhodora* 25: 202. 1923

In rich woods and thickets. Occasional or locally common across the State, northward to Washington, Warren, Herkimer and St Lawrence counties, westward to Lake Erie. Rare and local on Long Island and Staten Island.

Var. **glaucescens** Wiegand (*Rhodora* 20: 116. 1918; 25: 202. 1923), is described from Cayuga county.

3 **Triosteum angustifolium** L., l.c.

Yellow or narrow-leaved horse gentian

In rich soil, chiefly south of our borders. Reported from Manhasset and Glen Cove, Long Island, *I. Coles* (*Torr. Club. Bul.* 1: 41; 2: 2. 1871; 34th Rep't N. Y. State Mus. 41. 1881).

LINNAEA (Gronov.) L. Sp. Pl. 631. 1753

Linnaea borealis L. Sp. Pl. 631. 1753; var. **americana** (Forbes) Rehder, *Rhodora* 6: 56. 1904 American twin flower, deer vine
L. americana Forbes, Hort. Woburn. 135. 1825

In cool woods. Common throughout the Adirondacks and across the northern part of the State. Less frequent or local southward to the Catskill mountains in Greene, Ulster and Delaware counties, and westward across the State, but much less common southward and westward. Formerly at Babylon, Long Island, *Merriam* (Torr. Club Bul. 2: 26. 1871).

Forma **candicans** House, N. Y. State Mus. Bul. 243-244: 34. 1923, with pure white flowers, occurs at Lake Bonaparte, Lewis county.

SYMPHORICARPOS (Dill.) Ludwig, Def. 35. 1760

Symphoria Pers. Syn. 1: 214. 1805

1 **Symphoricarpos albus** (L.) Blake, *Rhodora* 16: 119. 1914

Snowberry, waxberry

Vaccinium album L. Sp. Pl. 350. 1753

S. racemosus Michx. Fl. Bor. Am. 1: 107. 1803

Lonicera racemosa Pers. Syn. 1: 214. 1805

Symphoria alba Raf. New Fl. 3: 21. 1837

In rocky places and on river banks. Frequent across the State northward. In southern New York, chiefly as an escape from cultivation.

Port Henry, *Peck*. Central Bridge, *Peck*. Helderberg mountains, *Pearson*; Otsego county, *Lathrop*; along the Black river between Watertown and Dexter; Genesee falls, *Carey*; Greece, Monroe county, *Bradley* (Paine, Cat. Pl. Oneida Co. 87. 1865). Dekalb, St Lawrence county, *Mrs O. P. Phelps*. Hammond and Canajoharie, *Peck*. Lake Bonaparte, Lewis county; Green lake, Onondaga county, *House*. Mendon, *Gannett*; Oak Orchard creek, *Baxter* (Proc. Rochester Acad. 3: 70. 1896; 5: 19. 1910). Apalachin, Tioga county, *Fenno*. Ravines and cliffs along Cayuga lake, *Dudley* (Cayuga Flora 43. 1886). Niagara Falls, *Day* (Pl. Buffalo 39. 1883).

Var. **laevigatus** (Fernald) Blake, l.c. 119. (*S. racemosus* var. *laevigatus* Fernald, *Rhodora* 7: 167. 1905), is less frequent and found chiefly in the southern part of the State, elsewhere apparently as an escape from cultivation.

The so-called var. **pauciflorus** (Robbins) Blake, l.c. (*S. racemosus* var. *pauciflorus* Robbins, in Gray, Man. ed. 5, 203. 1867), is a condition, rather than a constant variety, and may be found occasionally wherever the typical species grows in particularly sterile or exposed places.

- 2 **Symphoricarpos** **Symphoricarpos** (L.) MacM. Torr. Club. Bul.
19: 15. 1892 Coral berry, Indian currant

Lonicera Symphoricarpos L. Sp. Pl. 175. 1753
S. orbiculatus Moench, Meth. 503. 1794
S. vulgaris Michx. Fl. Bor. Am. 1: 106. 1803
Symphoria glomerata Pursh, Fl. Am. Sept. 161. 1814

Frequent in cultivation, and possibly indigenous along streams and in rocky woods, in western and southern New York. Occasional northward, apparently as an escape, to Rensselaer, Herkimer, Oswego, Lewis and Monroe counties.

LONICERA L. Sp. Pl. 173. 1753

Subgenus **Caprifolium**

Caprifolium (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754

- 1 **Lonicera Caprifolium** L., l.c. Italian or perfoliate horeysuckle

L. grata Ait. Hort. Kew. 1: 231. 1789
Caprifolium gratum Pursh, Fl. Am. Sept. 161. 1814
C. americanum Kuntze, Rev. Gen. Pl. 273. 1891

Occasional in cultivation. Rare as an escape to thickets and shores of streams (Paine, Cat. 87. 1865). Native of Europe.

- 2 **Lonicera hirsuta** Eaton, Man. ed. 2, 307. 1818

Hairy honeysuckle

L. villosa Muhl. Cat. 22. 1813. Not DC.
L. pubescens Sweet, Hort. Brit. 194. 1827
Caprifolium pubescens Goldie, Edinb. Phil. Jour. 6: 323. 1822
L. Goldii Spreng. Syst. 1: 758. 1825
C. hirsutum Kuntze, l.c.

In woodlands and thickets. Frequent northward across the State especially in calcareous districts and locally throughout the Adirondacks. Southward to the Hudson highlands, Tioga county and westward to Chautauqua county.

- 3 **Lonicera glaucescens** Rydberg, Torr. Club Bul. 24: 90. 1897

Douglas's honeysuckle

L. Douglasii Hook. Fl. Bor. Am. 1: 282. 1833. Not *Caprifolium Douglasii* Lindl. 1830

Rocky banks and moist shaded slopes. Rare in western New York.

Rocky banks of the Genesee river, Rochester, *Fuller* (Proc. Roches-Acad. 5: 19. 1910). Niagara Falls, *Clinton* (19th Rep't N. Y. State Mus. 73. 1866). West side of Irondequoit bay, *House*. No. 402 in Dudley's Cayuga Flora, page 44 (1886) apparently refers to this species. Sandy Creek, *Fernald & Wiegand* (Rhodora 25: 213. 1923).

4 *Lonicera dioica* L. Syst. ed. 12, 165. 1767

Smooth-leaved or glaucous honeysuckle

L. glauca Hill, Hort. Kew. 446. pl. 18. 1769*L. parviflora* Lam. Encycl. 1: 728. 1783*Caprifolium glaucum* Moench, Meth. 505. 1794*C. bracteosum* Michx. Fl. Bor. Am. 1: 105. 1803*C. parviflorum* Pursh, Fl. Am. Sept. 161. 1814

In rocky and often rather dry situations, sometimes in partially shaded swamps or bogs. Frequent or common across the State northward. Less common in the southern counties of the State and not reported from Long Island.

Somewhat variable, often only the upper pair of leaves connate, and the flowers varying in color from nearly yellow to greenish-yellow or purple.

Lonicera flava Sims, Bot. Mag. pl. 1318. 1810 (*Caprifolium Fraseri* Pursh; *Lonicera Fraseri* Eaton), native of the southern Appalachian mountains, is reported from the Catskill mountains in nearly all early floras, including Torrey & Gray, upon the authority of Pursh. This was probably a mistake and there is no other evidence that the plant was ever found in this State. It is possible that Pursh's report rests upon *Lonicera hirsuta* Eaton, at that time (1814), undescribed.

Subgenus *Periclymenum**Periclymenum* (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754*Phenianthus* Raf. Ann. Gen. Sc. Phys. 6: 83. 18205 *Lonicera sempervirens* L. Sp. Pl. 173. 1753

Trumpet or coral honeysuckle

P. sempervirens Raf., l.c.*Periclymenum sempervirens* Mill. Gard. Dict. ed. 8, No. 1. 1768*Caprifolium sempervirens* Michx., l.c.

In low grounds. Infrequent or rare. Perhaps native in the southeastern part of the State, or at least formerly so. Locally elsewhere across the State as an escape. Common in cultivation.

Staten Island; Glen Cove and Flatbush (Torr. Club Bul. 1: 41. 1871). Riverdale, *Bicknell* (Torr. Club Bul. 7: 52. 1880). Grassmere, Staten Island, *Rusby* (Torr. Club Bul. 17: 140. 1890). Staten Island, *Burnham* (Torreya 13: 249. 1913). East Marion, Long Island, *Burnham & Latham* (Torreya 14: 251. 1914). Sam's point, Long Island, *House*. Near Tarrytown and hills eastward, *Hall*; thickets along Otsego lake, *Gilbert*; *Lathrop* (Paine, Cat. 87. 1865). Roadsides near Mumford, Monroe county, *Beckwith* (Proc. Rochester Acad. 5: 19. 1910). Ithaca, *Dudley* (Cayuga Fl. 44. 1886). West Seneca, Erie county, *Day* (Pl. Buffalo 39. 1883).

Subgenus *Xylosteon**Xylosteon* (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754*Xylosteum* Adans. Fam. Pl. 2: 501. 1763

Section 1 *Nintooa* DC.

Nintooa Sweet, Hort. Brit. ed. 2, 258. 1830

6 *Lonicera japonica* Thunb. Fl. Jap. 89. 1784

Japanese or Chinese honeysuckle

Nintooa Japonica Sweet, l.c.

Freely escaped from cultivation and established in southern New York, and locally elsewhere throughout the State, outside of the higher mountains. Native of eastern Asia.

Section 2 *Chamaecerasi* DC.

Chamaecerasus (Tourn.) Medic. Phil. Bot. 1: 126. 1789

7 *Lonicera tatarica* L. Sp. Pl. 173. 1753

Tartarian bush honeysuckle

Xylosteum tataricum Medic. Pfl. Anat. 97. 1799

X. cordatum Moench, Meth. 502. 1794

Escaped from cultivation and established locally or more commonly long persistent in neglected grounds. Native of Asia.

Forma *albiflora* (DC.) comb. nov. (*L. tatarica* var. *albiflora* DC. Prodr. 4: 335. 1830; *L. pyrenaica* Willd. Berl. Baumz. 181. 1796. Not L.), with white flowers, is often found in cultivation and like the typical species persistent in neglected grounds

Forma *rubriflora* (DC.) comb. nov. (*L. tatarica* var. *rubriflora* DC., l.c.), with red flowers, occasional in cultivation.

8 *Lonicera canadensis* Marsh. Arb. Am. 81. 1785

American or early fly honeysuckle

L. ciliata Muhl. Cat. 23. 1813

X. ciliatum Pursh, Fl. Am. Sept. 161. 1814

X. canadense Duham. ex. DC. Prodr. 4: 337. 1830

L. tatarica Michx. Fl. Bor. Am. 1: 166. 1803. Not L.

C. ciliatum Kuntze, l.c.

In moist, especially rocky woodlands and thickets. Common northward across the State, especially in calcareous sections, but rare south of the Hudson highlands and rare in the Susquehanna valley. Occasional throughout the western part of the State. Reported from Staten Island, *Hollick & Britton* (Torr. Club. Bul. 13: 83. 1886).

9 *Lonicera Xylosteum* L. Sp. Pl. 174. 1753

Europe fly honeysuckle

X. vulgare Roehl. Deutsch. Fl. ed. 2, 2: 176. 1812

Caprifolium dumetorum Lam. Fl. Fr. 3: 367

X. dumetorum Moench, Meth. 502. 1794

C. Xylosteum Kuntze, l.c.

Formerly much used in ornamental shrubbery and hedges. Frequent as an escape and more common as a persistent shrub in neglected grounds. Native of Europe and Asia.

DeCandolle (Prodr. 4: 335. 1830) describes three forms (as varieties) based upon the color of the fruit; viz. **leucocarpa**, berries white; **xanthocarpa**, berries yellow; and **melanocarpa**, berries black.

Section I s i k a e

Isika Adans. Fam. Pl. 2: 501. 1763

Isica Moench, Meth. 504. 1794

10 *Lonicera oblongifolia* (Goldie) Hook. Fl. Bor. Am. 1: 284. *pl.*
100. 1833 Swamp fly honeysuckle

Xylosteum oblongifolium Goldie, Edinb. Phil. Jour. 5: 323. 1822

In swamps and bogs. Frequent northward across the State and throughout central and western New York, south to Otsego, Cortland, Tompkins and Tioga counties and westward to Lake Erie and Chautauqua county. Not reported from the Hudson valley or the Lake George region.

11 *Lonicera coerulea* L. Sp. Pl. 174. 1753

Blue or mountain fly honeysuckle

Xylosteum villosum Michx. Fl. Bor. Am. 1: 106. 1803

X. coerulea Dum.-Cours, Bot. Cult. ed. 2, 4: 336. 1811

X. Solonis Eaton, Man. 26. 1817

L. villosa Muhl. Cat. 22. 1813; Beck, Man. Bot. 150. 1833

X. coeruleum canadense Lam. Encycl. 1: 731. 1783

X. canadense Duham. Traite des Arb. & Arbus. ed. 2, 2: 373. 1804

Caprifolium coeruleum Lam. Fl. Fr. 3: 366. 1778

Chamaecerasus caerulea Delarb. Fl. Auv. ed. 2, 131. 1800

In bogs, swamps and boggy or wet mountain summits. Frequent in northern New York. Rare and local southward to the Hudson highlands and west to Genesee county.

Mount Marcy, *Peck* (N. Y. State Mus. Bul. 666. 1899). Lake Tear, *Peck* (31st Rep't N. Y. State Mus. 52. 1879). Summit of Mount McIntyre, *Peck* (N. Y. State Mus. Bul. 28: 101. 1899). Newcomb, *House*. Vernon, Oneida county, *Douglass*; *Kneiskern*; Phelps, Ontario county, *Sartwell* (Paine, Cat. 87. 1865) Poughkeepsie and highlands of Hudson, *Barratt*, etc. (Torrey, Fl. N. Y. 1: 300. 1843. Bergen swamp, Genesee county, and Wayne county, *Hankenson* (Proc. Rochester Acad. 3: 70. 1896). Chautauqua county, *Burgess*.

The subalpine form on Mount Marcy and Mount McIntyre is more dwarfed and somewhat more hairy than the form at lower elevations, but is apparently little more than a condition due to exposure. The form at lower elevations has been described by Fernald (*Rhodora* 12: 210. 1910) as *Lonicera coerulea* var. *calvescens*.

DIERVILLA (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754

Weigela Thunb. Act. Stockh. 137. t. 5. 1780 – *Weigelia* Pers. Syn. 1: 176. 1803

Diervilla Diervilla (L.) MacM. Torr. Club Bul. 19: 15. 1892
Bush honeysuckle

- Lonicera Diervilla* L. Sp. Pl. 175. 1753
D. trifida Moench, Meth. 592. 1794
D. Tournefortii Michx. Fl. Bor. Am. 1: 107. 1803
D. canadensis Willd. Enum. 1: 222. 1797
D. lutea Pursh, Fl. Am. Sept. 162. 1814
D. humilis Pers. Syn. 1: 214. 1805
D. arcadiensis Duham. Arb. 1: t. 87. 1755
D. Lonicera Mill. Gard. Dict. ed. 8, 1768
D. parviflora Raf. New Fl. 3: 22. 1838
D. longiflora Raf., l.c. 21

In dry, rocky or sandy woodlands, thickets and open places. Common or frequent across the State, especially northward, and locally frequent southward to Staten Island. Not reported from Long Island.

DEUTZIA Thunb. Nov. Gen. 19. 1781

Deutzia scabra Thunb., l.c. 19, 20, 21. 1781

Common in cultivation. Native of Asia. Reported by *Burnham* (N. Y. State Mus. Bul. 157: 25. 1912) as being established at Copake Iron Works, Columbia county.

Family 34 **ADOXACEAE** Fritsch; in Engl. & Prantl. Nat.

Pflanzenfl. 4: 170. 1891

Moschatel family

ADOXA L. Sp. Pl. 367. 1753

Adoxa moschatellina L., l.c.

Muskroot, hollowroot, moschatel

Near Arkville, Delaware county, *Miss F. A. Mumford*, Taylor (Torreya 13: 78. 1913). Perhaps adventive or naturalized there Native in Iowa and also in Europe.

Family 35 **VALERIANACEAE** Batsch, Tabl. Aff. 227. 1802

Valerian family

VALERIANA (Tourn.) L. Sp. Pl. 31. 1753

1 **Valeriana uliginosa** (T. & G.) Rydb.; Britton, Man. 878. 1901
Marsh or swamp valerian

- V. dioica* Pursh, Fl. Am. Sept. 727. 1814. Not L.
V. sylvatica var. *uliginosa* T. & G. Fl. N. Am. 2: 47. 1841

In wet soil, especially in marshes and bogs. Infrequent or rare in Dutchess county. Increasingly abundant from Otsego and Herkimer counties westward to Genesee county and northward to Lewis county.

Pine Plains, Dutchess county, *Hoysradt* (Torr. Club Bul. 6: 53. 1875). Junius, Seneca county, *J. J. Thomas* about 1827, (Dudley, Cayuga Flora 45. 1886). Savannah, Wayne county, *Sartwell* (Sartwell herbarium). Wayne county, and Bergen swamp, Genesee county and swamps along the hilltops of southern Herkimer county, *Paine* (Cat. Pl. Oneida Co. 90. 1865). Pecksport, Madison county, *House*. Summit marsh, Otsego county, *House*. Bonaparte swamp, Lewis county, *House*. Victor, Ontario county, *Mathews*; Powder Mills, Perinton and Bushnell Basin, *Baxter*; Mendon, *Fish*; Newark, *Hankenson* (Proc. Rochester Acad. 3: 71. 1896; 5: 94. 1917).

Valeriana septentrionalis Rydb. N. Y. Bot. Gard. Mem. 1: 375. 1900 (*V. sylvatica* Banks; Richards. App. Frankl. Jour. ed. 2, 2. (730). 1823. Not F. W. Schmidt), is not definitely known from northern New York, but may be looked for there.

2 *Valeriana officinalis* L. Sp. Pl. 31. 1753

Common, garden or great wild valerian

V. sylvestris Gessault, Fig. Pl. Anim. Med. t. 609. 1764

Escaped from gardens to roadsides and waste ground. Infrequent or rare, but rather widely distributed across the State, especially northward. Native of Europe and Asia.

VALERIANELLA (Tourn.) Mill. Gard. Dict. abr. ed. 4, 1754

1 *Valerianella Locusta* (L.) Betcke. Anim. Val. 10. 1826

European corn salad

Valeriana Locusta & var. *olitoria* L. Sp. Pl. 33. 1753

Valerianella olitoria Poll. Hist. Pl. Palat. 1: 30. 1776

In fields and waste places. Infrequent or rare as a weed. Naturalized from Europe.

West New Brighton, Staten Island, *Hollick & Britton* (Torr. Club Bul. 9: 150. 1882). Frontenac Island, Cayuga lake, *Dudley* (41st Rep't N. Y. State Mus. 57. 1888). Williamsville, *J. Peter* (53d Rep't p. 850. 1900).

2 *Valerianella chenopodifolia* (Pursh) DC. Prodr. 4: 629. 1830

Goosefoot corn salad

Fedia chenopodifolia Pursh, Fl. Am. Sept. 727. 1814

F. fagopyrum T. & G., Fl. N. Am. 2: 51. 1841; Torrey, Fl. N. Y. 1: 319. 1843

In moist meadows and fields. Infrequent or rare from Oneida and Broome counties, westward.

Banks of the Mohawk near Utica, *Gray*; *Kneiskern*; Penn Yan, *Sartwell* (Torrey, l.c.) Common in river meadows of Broome county, *Clute*; *Millsbaugh* (Fl. Upper Susquehanna 53. 1898). Rare, Wayne county (Proc. Rochester Acad. 3: 72. 1896).

3 *Valerianella radiata* (L.) Dufr. Hist. Val. 57. 1811

Beaked corn salad

Valeriana Locusta var. *radiata* L. Sp. Pl. 34. 1753

Fedia radiata Michx. Fl. Bor. Am. 1: 118. 1803

In moist soil. Rensselaer and Greene counties to Chenango and Oswego counties and westward. Infrequent or rare.

Wynantskill, Rensselaer county, *Gordinier* (38th Rep't N. Y. State Mus. 107. 1888). New Baltimore, Greene county, *E. C. Howe* (24th Rep't N. Y. State Mus. 56. 1872). North of Oxford, Chenango county, *Coville* (Clute, Fl. Upper Susquehanna 54. 1898). Oneida, Madison county, *House*. Oswego, *Sheldon*. Hanford's Landing, *Baxter*; Scottsville, *Holzer*; *Lennon* (Proc. Rochester Acad. 3: 72. 1895).

4 *Valerianella Woodsiana* (T. & G.) Walp. Rep. 2: 527. 1843

Woods' corn salad

Fedia Woodsiana T. & G., Fl. N. Am. 2: 52. 1841

F. umbilicata Sulliv. Am. Jour. Sci. 42: 50. 1842

F. patallaria Sulliv.; A. Gray, Man. 183. 1848

In moist meadows and on banks. Rare from Greene and Chenango counties southward into Pennsylvania.

Alluvial meadows along Chenango river, Oxford, Chenango county, *Coville* (Torr. Club Bul. 12: 53. 1885, the var. *patallaria* (Sulliv.) Gray). New Baltimore, Greene county, *Howe* (24th Rep't N. Y. State Mus. 57. 1872, the var. *umbilicata* (Sulliv.) Gray.

Family 36 **DIPSACACEAE** Lindl. Veg. Kingd. 699. 1847

(Dipsaceae Zinn, 1757)

Teasel family

DIPSACUS (Tourn.) L. Sp. Pl. 97. 1753

1 *D. Fullonum* L., l.c.

Fuller's or Draper's teasel

D. fullorum var. *sativum* L. Sp. Pl. ed. 2, 1677. 1763

Formerly frequent about woolen mills, and persistent in some places. Now very rare as an escape, but occasionally cultivated for its rough stems. Native of Europe.

2 *Dipsacus laciniatus* L., l.c.

Near Beaver park, Albany, in waste ground, *Peck* (N. Y. State Mus. Bul. 94: 31. 1905). Adventive from Europe.

3 *Dipsacus sylvestris* Huds. Fl. Angl. 49. 1762

Wild, common or card teasel

In waste places. Frequent or common in many sections of the State. Naturalized from Europe.

SCABIOSA (Tourn.) L. Sp. Pl. 98. 1753

Scabiosa arvensis L., l.c. 99 Field scabious

In cultivated fields and waste places. Infrequent or rare. Adventive or locally naturalized from Europe.

Richmond, Staten Island, *Hollick & Britton* (Torr. Club Bul. 13: 83. 1886). Rochester, *Vollertsen* (Proc. Rochester Acad. 5: 95. 1917).

SUCCISA (Vall.) Moench, Meth. 488. 1794

Succisa australis (Wulf.) Reichenb. Fl. Germ. Exs. 196. 1830

Southern scabious

Scabiosa australis Wulf. in Roem. Arch. 3³: 316. 1803

In fields and meadows or along roadsides. Infrequent or locally abundant. Naturalized from Europe.

Union Springs, Cayuga county, *Dudley* (36th Rep't N. Y. State Mus. 35. 1884; Torr. Club Bul. 20: 169. 1893). Lisle, Broome county, *Ingham* (Torr. Club Bul. 20: 22. 1893). Montezuma, *Dudley* (l.c.). Wyoming, *Hartnell* (Proc. Rochester Acad. 5: 19. 1910). Jordanville, Herkimer county, *House*.

Family 37 **CUCURBITACEAE** L. (1754) — B. Juss. Hort.

Trien. 1759

Gourd family

PEPO (Tourn.) Mill. Gard. Dict. abr. ed. 4. 1754

The squash, **Pepo maximus** (Duchesne) Peterm.; the crookneck squash, **Pepo moschatus** (Duchesne) Sageret; and the pumpkin **Pepo vulgaris** (L.) Moench (*Cucurbita Pepo* L.) belong to this genus. Although common in cultivation they are not apt to be persistent or to become established.

ANGURIA (Bauh.) Mill. Gard. Dict. abr. ed. 4. 1754

The Watermelon, **Anguria Citrullus** (L.) Mill. (*Cucurbita Citrullus* L., *Citrullus vulgaris* Schrad.), is sometimes spontaneous from seed, but will not mature fruit in this latitude unless started early.

CUCURBITA L. Sp. Pl. 1010. 1753

The gourd, **Curcubita Lagenaria** L., l.c. (*Lagenaria vulgaris* Ser.) belongs to this genus. Common in cultivation and sometimes persistent for a brief period in waste places, but apparently not tending to become established.

CUCUMIS (Tourn.) L. Sp. Pl. 1011. 1753

The muskemelon, **Cucumis Melo** L. and the cucumber, **Cucumis sativus** L., belong to this genus.

MICRAMPELIS Raf. Med. Repos. II. 5: 350. 1808

Echinocystis T. & G. Fl. N. Am. 1: 542. 1840

Hexameria T. & G., Torr. Rep. Pl. N. Y. 137. 1840

Micrampelis lobata (Michx.) Greene, Pittonia 2: 128. 1890

Wild cucumber, wild balsam apple, mock orange

Momordica echinata Muhl. Trans. Am. Phil. Soc. 3: 180. 1793, name only;

Willd. Sp. Pl. 4: 605. 1805

Sicyos lobata Michx. Fl. Bor. Am. 2: 217. 1803

Micrampelis echinata Raf., l.c.

Hexameria echinata T. & G.; Torrey, Rep. Pl. N. Y. 137. 1840

E. lobata T. & G. Fl. N. Am. 1: 542. 1840

Along rivers and in moist waste places. Infrequent or rare in the northern part of the State outside of the Adirondacks, from St Lawrence county and Lake Champlain southward and westward. Increasingly common southward, especially along the larger streams and rivers.

SICYOS L. Sp. Pl. 1013. 1753

Sicyoides [Tourn.] Medic. Phil. Bot. 1: 36. 1789

Sicyos angulatus L., l.c. One-seeded bur cucumber, star cucumber

Sicyoides angulatus Medic., l.c.

Along river banks and in moist thickets. Locally frequent across the State outside of the higher Adirondacks, and along some of the larger streams and rivers; southward becoming common.

Family 38 **CAMPANULACEAE** Juss. Gen. 163. 1789

Bellflower Family

CAMPANULA L. Sp. Pl. 163. 1753

1 ***Campanula rotundifolia*** L., l.c. Harebell, blue bells of Scotland

On moist rocks and in meadows. Frequent or common across the State northward. Less common southward in the State, except in the semi-mountainous sections. Not reported from Staten Island and known on Long Island only from near Babylon.

Forma ***albiflora*** (G. Don) House, N. Y. State Mus. Bul. 243-244: 21. 1923 (*C. rotundifolia* var. *albiflora* G. Don, Gen. Syst. 3: 758. 1838), at Lansingburg, Rensselaer county and Indian pass, Essex county, Peck.

2 ***Campanula rapunculoides*** L., l.c. 165

Creeping or European bellflower

Roadsides and thickets, sometimes in fields or meadows. Native of Europe and rather common as a naturalized plant in many parts of the State, chiefly north of the Hudson highlands.

Var. **ucranica** (Bess.) C. Koch (*C. ucranica* Bess; *C. crenata* Link; *C. infundibuliformis* Sims, Bot. Mag. t. 2632), with glabrous calyx, stems nearly or quite glabrous and reddish; flowers bluish-violet, is rather frequent in many localities, especially northward and westward in the State.

3 **Campanula aparinoides** Pursh, Fl. Am. Sept. 159. 1814

Marsh or bedstraw bellflower

In grassy swamps and marshes. Frequent or locally abundant across the State, chiefly outside of the Adirondacks, from Lake Champlain, westward and southward.

4 **Campanula uliginosa** Rydb., in Britton, Man. 885. 1901

Blue marsh bellflower

In wet meadows, marshy places and wet shores of ponds and lakes. Common throughout the Adirondack region and locally across the region west of the Adirondacks, central New York and the Western part of the State.

5 **Campanula americana** L. Sp. Pl. 164. 1753 Tall bellflower

C. acuminata Michx. Fl. Bor. Am. 1: 108. 1803

Campanulastrum americanum Small, Fl. SE. U. S. 1141. 1903

In moist thickets, open wooded swamps and marshy meadows. Frequent in the western part of the State. Rare and local eastward to the Hudson and Susquehanna valleys.

Troy, *Aiken & Wright* (Torrey, Fl. N. Y. 1: 427. 1843). Chemung valley, *Kneiskern*; Seneca and Crooked lakes, *Sartwell* (Paine, Cat. Pl. Oneida Co. 100. 1865). Elmira, *Lucy*; Waverly, *Graves* (Clute, Fl. Upper Susquehanna 66. 1898). Rare near Ithaca, *Dudley* (Cayuga Fl. 57. 1886). Genesee county, *Beckwith*; LeRoy, *Macaulay*, *Holzer* (Proc. Rochester Acad. 3: 81. 1896). Swamp 12 miles southeast of Lockport, *House*. West Seneca, Erie county, *Day* (Pl. Buffalo 49. 1883).

JASIONE L. Sp. Pl. 928. 1753

Jasione montana L., l.c.

Sheep's-bit

In waste places. Adventive on ballast at Hunter's point in 1879. Also reported in Britton & Brown, Illus. Fl. ed. 2, 3: 299. 1913. Laurel, Suffolk county, *Latham*.

SPECULARIA Heist.; Fabr. Enum. Pl. Hort. Helmst. 225. 1763

Legouzia Durand, Fl. Bourg. 2: 26. 1782

Triodanis Raf. Ann. Gen. Sc. Phys. 6: 83. 1820

Pentagonia [Moehr.] Kuntze, Rev. Gen. Pl. 381. 1891

Specularia perfoliata (L.) A. DC. Mon. Campan. 351. 1830
Venus's looking-glass

Campanula perfoliata L. Sp. Pl. 169. 1753
T. rupestris Raf., l.c.
C. amplexicaulis Michx. Fl. Bor. Am. 1: 108. 1803
L. perfoliata Britton, Torr. Club Mem. 5: 309. 1894
P. perfoliata Kuntze, l.c.

In dry woods, fields and open places, usually in sterile soil or sandy places. Locally common across the State, chiefly south of the Adirondack region. Increasingly common southward especially on Long Island and Staten Island.

Family 39 **LOBELIACEAE** Dumort. Comm. Bot. 57. 1822

Lobelia family

LOBELIA L. Sp. Pl. 929. 1753

Section 1 **Dortmanna**

Dortmania Neck. Elem. 1: 132. 1790; **Dortmanna** G. Don, Gen. Syst. 3: 715. 1834

1 **Lobelia Dortmanna** L., l.c. Water lobelia

Dortmanna lacustris G. Don, l.c.

Borders of ponds and lakes, usually in sandy soil, sometimes wholly emersed but usually only the top of the flowering spikes above water. Common throughout the Adirondack region and locally southward to Westchester, Putnam and Rockland counties and westward to Oneida and Oswego counties. Also on eastern Long Island.

Rockland county, *Austin* (Torr. Club Bul. 2: 12. 1871). Sam's Point, Ulster county, *Britton* (Torr. Club Bul. 10: 106. 1883). West Point, *Bailey* (Torr. Club Bul. 13: 60. 1886). "all the ponds and lakes of the north woods", *Paine* (Cat. Pl. Oneida Co. 100. 1865). Grafton, Rensselaer county, *Wright & Hall* (Cat. Pl. Troy 24. 1836). Sag Harbor, *Buckley* (Torrey, Fl. N. Y. 1: 424. 1843). Riverhead, Long Island, *H. W. Young* (Torr. Club Bul. 4: 41. 1873). Numerous records from the northern part of the State omitted.

Section 2 **Rapuntium**

Rapuntium (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754

2 **Lobelia cardinalis** L. Sp. Pl. 930. 1753

Cardinal flower, red lobelia

Rapuntium cardinale Mill. Gard. Dict. ed. 8, No. 1. 1768

In moist soil. Frequent or common throughout the State, although rare in some sections of the coastal plain.

Forma alba (A. Eaton) St John, Rhodora 21: 218. 1919, with white corollas, occurs at Gull bay, Lake George, *Mrs Murdock* (N. Y. State Mus. Bul. 157: 40. 1912). *Wood* (Classbook 476. 1861), mentions a form from Potsdam with entire leaves.

3 **Lobelia syphilitica** L., l.c. 931 Great or blue lobelia
R. syphiliticum Moench, Meth. 655. 1794

In moist soil, often in low marshy places, wet woods or swamps. Frequent or common throughout most sections of the State.

Forma albiflora (Britton) House, N. Y. State Mus. Bul. 243-244: 55. 1923, occurs on Long Island (Torr. Club Bul. 17: 125. 1890).

4 **Lobelia spicata** Lam. Encycl. 3: 587. 1789 Pale spiked lobelia

L. Claytoniana Michx. Fl. Bor. Am. 2: 153. 1803

L. pallida Muhl. Cat. 22. 1813

L. goodenioides Willd. Hort. Berol. pl. 30. 1816

R. Claytonianum Presl. Prod. Monog. Lobel. 23. 1836

In dry, usually sandy soil, or in marshes and meadows. Frequent or locally common across the State but local or rare in the Adirondack region.

5 **Lobelia inflata** L. Sp. Pl. 931. 1753 Indian or wild tobacco, eyebright

R. inflatum Mill., l.c. No. 5

In fields, woods and thickets, often a weed. Common throughout the State.

6 **Lobelia Kalmii** L., l.c. 930 Brook or Kalm's lobelia
R. Kalmii Presl., l.c. 23

On wet banks, wet rocks and in low or wet meadows and marshes or springy slopes. Often on sandy or gravelly shores. Common across the State northward. Rare in the southern counties and not reported from south of Westchester county, but formerly on New York Island, according to LeConte.

7 **Lobelia Nuttallii** R. & S. Syst. 5: 39. 1819 Nuttall's lobelia
L. gracilis Nutt. Gen. 2: 77. 1818. Not Andr.
R. Nuttallianum Presl., l.c. 23

In sandy, usually moist soil, chiefly on and in the borders of salt marshes on the south side of Long Island. To be looked for in southern Westchester county and Bronx county.

Family 40 **CICHORIACEAE** Zinn, Cat. Pl. Goett. 1757.

Reichenb. Fl. Excurs. 248. 1831

Chicory family

CICHORIUM (Tourn.) L. Sp. Pl. 813. 1753

Cichorium Intybus L., l.c. Chicory, wild succory, blue sailor

Roadsides fields and waste places. Common throughout most sections of the State. Naturalized from Europe. A form with white flowers occurs near Albany.

LAPSANA L. Sp. Pl. 811. 1753

Lapsana communis L., l.c. Nipplewort

Along roadsides and in waste places. Infrequent or rare as a weed across the State chiefly south of the Adirondack region. Naturalized from Europe.

KRIGIA Schreb. Gen. Pl. 532. 1791

Section *Eukrigia*

1 **Krigia virginica** (L.) Willd. Sp. Pl. 3: 1618. 1804

Carolina dwarf dandelion

Hyoseris virginica L. Sp. Pl. 809. 1753

H. caroliniana Walt. Fl. Car. 194. 1788

K. caroliniana Nutt. Gen. 2: 126. 1818

Cynthia virginica Beck, Bot. 169. 1833. Not Don, 1829

Adopogon carolinianum Britton, Torr. Club Mem. 5: 346. 1894

In dry, sandy or sometimes rocky soil. Common on Long Island and Staten Island. Less frequent northward to Rensselaer, Saratoga and Schenectady counties, westward to Oneida, Oswego, Monroe and Erie counties.

Section *Cynthia*

Cynthia D. Don, Edinb. Phil. Jour. 12: 305. 1829

Luthera Schultz, in Linnaea 10: 257. 1836

2 **Krigia biflora** (Walt.) Blake, Rhodora 17: 135. 1915

Virginia goat's beard

Tragopogon virginianum L. Sp. Pl. 789. 1753. Not *Krigia virginica* Willd.

Hyoseris biflora Walt. Fl. Car. 194. 1788

H. minor J. F. Gmel. Syst. 1182. 1789

H. amplexicaulis Michx. Fl. Bor. Am. 2: 87. 1803

Krigia amplexicaulis Nutt. Gen. 2: 127. 1818

Cynthia virginica D. Don, Edinb. Phil. Jour. 12: 305. 1829

C. amplexicaulis Beck, Bot. 168. 1833

Adopogon virginicum Shafer, Ann. Carnegie Mus. 1: 71. 1901

In moist woods and meadows. Frequent across the southern part of the state, but somewhat rare on Long Island. Rare and local northward.

ARNOSERIS Gaertn. Fr. & Sem. 2: 355. *pl.* 157. 1791

Arnoseris minima (L.) Dumort. Fl. Belg. 63. 1827

Lamb Succory

Hyoseris minima L. Sp. Pl. 879. 1753

A. pusilla Gaertn., l.c.

In fields and waste places. Infrequent or rare as an adventive from Europe. Rochester, *Vollertsen* (Proc. Rochester Acad. 5: 22. 1910).

HYPOCHAERIS (Vaill.) L. Sp. Pl. 810. 1753

1 **Hypochaeris radiata** L., l.c. 811.

Long-rooted cat's-ear, gosmore

In waste places. Infrequent or rare. Adventive from Europe or locally naturalized.

Cedarhurst, Nassau county, *Grout* (*Torrey* 2: 53. 1902)
Rochester, *Vollertsen*, *Beckwith* (Proc. Rochester Acad. 5: 22. 1910; 5: 98. 1917).

2 **Hypochaeris glabra** L., l.c. 810

Smooth gosmore

Reported as a waif near New York City. Native of Europe.

VIREA Adans. Fam. Pl. 2: 112. 1763

Leontodon L. (in part), 1753; Gray, Man. ed. 7, 863. 1908

Section *Scorzoneroideis*

Scorzoneroideis Moench, Meth. 549. 1794

1 **Virea autumnalis** (L.) S. F. Gray, Nat. Arr. Br. Pl. 2: 430.
1821

Fall dandelion, lion's tooth

Leontodon autumnale L. Sp. Pl. 798. 1753

Scorzoneroideis autumnalis Moench, l.c.

Apargia autumnalis Hoffm. Deutsch. Fl. ed. 2, 2: 113. 1800

Oporinia autumnalis D. Don, Edinb. Phil. Jour. 12: 309. 1829

In fields, waste places and along railroads and roadsides. Infrequent or locally abundant, especially about cities. Naturalized from Europe.

Var. **pratensis** (Link) House, N. Y. State Mus. Bul. 243-244: 69. 1923

Apargia pratensis Link, Handb. 1: 791. 1829

Leontodon pratensis Reichenb. Fl. Germ. Exs. 253. 1830-32

Leontodon autumnalis var. *pratensis* Koch

Usually larger, the involucre and tips of peduncles densely soft-pubescent with blackish hairs.

Adventive from Europe and occasional or sometimes more frequent than the typical species.

Section *Apargia*

Apargia Scop. Fl. Carn. ed. 2, 2: 113. 1772
Colobium Roth, in Roem. Arch. 1: 36. 1796

2 *Virea hispida* (L.) S. F. Gray, l.c. 429 Common hawkbit

Leontodon hispidum L. Sp. Pl. 799. 1753
Apargia hispida Willd. Sp. Pl. 3: 1552. 1804
Colobium hispidum Roth, l.c. 37

In ballast and in fields and waste places. A rather uncommon adventive chiefly about New York City, towns and cities along the Hudson river and rarely elsewhere.

Leontodon hispidum L. is made a variety of *L. hastile* L. (1763) in Gray's Man. ed. 7, 863. 1908, under the name of *Leontodon hastile* var. *vulgaris* Koch. The two are probably distinct species, but definite records for *V. hispida* var. *hastile* (L.) House, l.c., from this State are lacking, although reported from southern New York.

3 *Virea nudicaulis* (L.) House, l.c.

Rough or hairy hawkbit

Crepis nudicaulis L. Sp. Pl. 805. 1753
Leontodon hirtum L. Sp. Pl. ed. 2. 1123. 1763
Colobium hirtum Roth, l.c. 36
Apargia nudicaulis Britton, in B. & B., Illus. Fl. ed. 2, 3: 310. 1913
Leontodon nudicaule Banks; Lowe, Trans. Cambridge Phil. Soc. 4: 29. 1831
Thrinchia nudicaulis Britten, Jour. Bot. 45: 33. 1907

In waste places, along railroads and on ballast. Infrequent or rare, chiefly on Long Island, about New York City, Rochester, and other cities and towns. Adventive or naturalized from Europe.

PICRIS L. Sp. Pl. 792. 1753

1 *Picris hieracioides* L., l.c. Hawkeed picris

In waste places and in ballast. Occasional on Long Island, vicinity of New York City, Rochester, etc. Adventive from Europe.

2 *Picris echinoides* L., l.c. Bristly ox-tongue

Helmintha echinoides Gaertn. Fr. & Sem. 2: 368. 1802

In ballast and in waste places. Rare as an adventive on Long Island, Staten Island and about New York City. Native of Europe.

TRAGOPOGON (Tourn.) L. Sp. Pl. 789. 1753

1 *Tragopogon pratensis* L., l.c.

Yellow goat's beard, meadow salsify

In fields, along roadsides and in waste places. Frequent across the State, chiefly outside of the higher mountainous sections; often along railroads. Naturalized from Europe.

2 **Tragopogon porrifolius** L., l.c.

Oyster plant, salsify, purple goat's beard

In fields and waste places, sometimes along railroads and roadsides. Locally frequent. Escaped from cultivation or naturalized from Europe.

LEONTODON L. Sp. Pl. 798. 1753**Taraxacum** (Hall.) Ludwig, Def. 175. 1760**Hedypnois** (Tourn.) Scop. Fl. Carn. ed. 2, 2: 99. 17721 **Leontodon Taraxacum** L., l.c.

Dandelion

T. officinale Weber, Prim. Fl. Holst. 56. 1780*T. Dens-leonis* Desf. Fl. Atlant. 2: 228. 1800*T. Taraxacum* Karst. Deutsch. Fl. 1138. 1883

In fields, lawns and waste places, often in woodlands. Very common. Naturalized from Europe.

Leontodon ceratophorus Ledebour, Icon. Pl. Fl. Ross. 1: 9. pl. 34. 1829 (*T. ceratophorum* DC., *T. montanum* Nutt. not Mey.; *L. monticola* Rydb. Fl. Rocky Mts. 1035. 1917), a northern species extends southward into New England and may be looked for in northern New York.

2 **Leontodon laevigatus** Willd. Sp. Pl. 3: 1546. 1800

Red-seeded dandelion

T. laevigatum DC. Cat. Hort. Monspel. 149. 1813*T. erythrospermum* Andr. in Besser, Enum. Pl. Volhyn. Podol. 75. 1822*L. erythrospermum* Britton, in B. & B. Illus. Fl. ed. 2, 3: 316. f. 4064. 1913

In fields and woods. Much less common than the preceding species, but occasional or locally frequent in most sections of the State. Naturalized from Europe.

SONCHUS (Tourn.) L. Sp. Pl. 793. 17531 **Sonchus arvensis** L., l.c.

Corn sow thistle, milk thistle

In low grounds and moist waste places. Frequent in most sections of the State. Naturalized from Europe.

2 **Sonchus uliginosus** Bieb. Fl. Taur.-Cauc. 2: 238. 1808

Ithaca, *Wiegand*, and Erie county, *W. P. Holt* (Mackenzie in *Torrey* 22: 92. 1922). *S. arvensis* var. *glabrescens* Fernald & *Wiegand* (*Rhodora* 12: 145. 1910). Native of eastern Europe.

3 **Sonchus oleraceus** L., l.c. 794

Annual sow thistle, hare's lettuce

In fields and waste places. Frequent as a weed in nearly all portions of the State. Naturalized from Europe.

4 **Sonchus asper** (L.) Hill, Brit. Herb. 47. 1769

Spiny or sharp-fringed sow thistle

S. oleraceus var. *asper* L. Sp. Pl. 794. 1753

S. carolinianus Walt. Fl. Car. 192. 1788

S. spinulosus Bigel. Fl. Bost. 290. 1824

In waste places. Frequent or common as a weed in many sections of the State. Naturalized from Europe.

MALACOTHRIX DC. Prodr. 7: 192. 1838

Malacothrix sonchoides (Nutt.) T. & G., Fl. N. Am. 2: 486. 1843

Leptosiris sonchoides Nutt. Trans. Phil. Soc. (II) 7: 439. 1841

Native of the dry plains of the western states. Adventive on Long Island, *Jelliffe* (Torreya 4: 100. 1904).

LACTUCA (Tourn.) L. Sp. Pl. 795. 1753

Cicerbita Wallr. Shed. Crit. 433. 1822

Mulgedium Cass. Dict. Sc. Nat. 33: 296. 1824

Agathyrus D. Don, Edinb. New Phil. Jour. 310. 1828

Galathenium Nutt. Trans. Am. Phil. Soc. (II) 7: 442. 1841

Wiestia Sch. Bip. in Herb. & Winckl. Jahrb. Pharm. 4: 154. 1841

Section *Scariola* DC.

1 **Lactuca virosa** L., l.c.

Prickly or wild lettuce

L. serriola L. Cent. Pl. 2: 29. 1756

L. Scariola L. Sp. Pl. ed. 2, 1119. 1763

In fields and waste places. Often a troublesome weed. Common in most sections of the State. Naturalized from Europe.

According to Robinson & Fernald (Gray, Man. ed. 7, 866), our common plant is *L. Scariola* var. *integrata* Gren. & Godr. (*L. virosa* of Am. Auth., not L.), while the typical *L. Scariola* is comparatively rare.

2 **Lactuca sativa** L. l.c.

Garden lettuce

Native of Europe. Common in cultivation and occasionally spontaneous or persistent, but apparently not established.

3 **Lactuca hirsuta** Muhl. Cat. 69. 1813 Hairy or red wood lettuce

L. sanguinea Bigel. Fl. Bost. ed. 2, 287. 1824

Galathenium sanguineum Nutt., l.c. 443

L. elongata var. *sanguinea* T. & G. Fl. N. Am. 2: 496. 1843

In dry soil, in thickets, open woods and waste places. Infrequent across the State northward. Increasingly abundant southward in the State, especially on Long Island and Staten Island, and westward to Lake Erie.

4 **Lactuca canadensis** L., l.c. 796 Wild or tall lettuce

Sonchus pallidus Willd. Sp. Pl. 3: 1521. 1804

L. elongata Muhl.; Willd., l.c. 1525

L. longifolia Michx. Fl. Bor. Am. 2: 85. 1803

Cicerbita elongata Wallr., l.c. 434

Galathenium elongatum Nutt., l.c. 443

Wiestia elongata Sch. Bip., l.c.

L. elongata var. *longifolia* T. & G. Fl. N. Am. 2: 496. 1843

In moist open places. Frequent or common throughout the State, but rare or absent in some sections of Long Island.

The typical form is said by Wiegand (*Rhodora* 22: 10. 1890) to have leaves with linear-falcate, usually entire lobes; the upper unlobed leaves (if any) linear or linear-lanceolate, leaf-bases sagittate or auriculate. A form with bases of the leaf-blades tapering is called forma **angustipes** Wiegand.

Var. **latifolia** Kuntze, Rev. Gen. Pl. 1: 349. 1891

L. elongata Ell. Bot. S. C. & Ga. 2: 252. 1822

Leaves with broadly falcate or obovate and obliquely truncate, entire or toothed lobes. Occasional.

Var. **montana** Britton, in Britton & Brown, Illus. Fl. 3: 274. 1898

L. integrifolia Bigel. Fl. Bost. ed. 2, 287. 1824. Not Nutt.

L. sagittifolia Ell. Bot. S. C. & Ga. 2: 253. 1822; Gray's Man. ed. 7, 867. 1903

Mulgedium integrifolium Cass., l.c. 298

L. elongata var. *integrifolia* T. & G. Fl. N. Am. 2: 496. 1843

L. canadensis var. *integrifolia* Gray, Man. ed. 5, 281. 1869; Wiegand, l.c.

Leaves all unlobed, lanceolate, oblong, oblanceolate or obovate, entire or denticulate, or the lowest sometimes shallowly lobed. Varies to a form with cauline leaves oblanceolate or obovate and usually toothed, which Wiegand calls **L. canadensis** var. **obovata**. Wiegand lays much stress upon whether the bases of the cauline leaves are sagittate or whether tapering and not sagittate.

5 **Lactuca Morssii** Robinson, *Rhodora* 1: 12. 1899

In moist soil. Uncommon and local but widely distributed.

Salt marshes of Westchester county, *Taylor*. North Elba and Loon lake station in the Adirondacks, *Peck* (N. Y. State Mus. Bul. 54: 946. 1902).

It has been suggested that this is a hybrid between *L. canadensis* and *L. spicata*.

Section **Mulgedium** (Cass.) Gray

6 **Lactuca villosa** Jacq. Hort. Schoen. 3: 62. pl. 367. 1798

Hairy-veined blue lettuce

Sonchus acuminatus Willd. Sp. Pl. 3: 1521. 1824

Cicerbita acuminata Wallr., l.c. 434

Mulgedium acuminatum DC. Prodr. 7: 250. 1838

Wiestia acuminata Sch. Bip., l.c.

L. acuminata A. Gray, Proc. Am. Acad. 19: 73. 1883

In woods and thickets. Infrequent or rare in the southern tier of counties bordering on Pennsylvania.

7 *Lactuca floridana* (L.) Gaertn. Fr. & Sem. 2: 362. 1791

False or Florida lettuce

Sonchus floridanus L. Sp. Pl. 794. 1753

Mulgedium floridanum DC., l.c. 249

Agathysus floridanus D. Don, l.c.

Cicerbita floridana Wallr., l.c.

Galathenium floridanum Nutt., l.c.

Wiestia floridana Sch. Bip., l.c.

In moist open places. Rare in southern New York. Todt hill, Staten Island, *Hollick & Britton* (Torr. Club Bul. 12: 39. 1885).

8 *Lactuca spicata* (Lam.) Kuntze, Rev. Gen. Pl. 349. 1891;

Hitchc. in Britton & Brown, Illus. Fl. 3: 276. 1898

Tall blue lettuce

Sonchus spicatus Lam. Encycl. 3: 401. 1789

S. canadensis L. Sp. Pl. 793. 1753 (excl. descr.) & *S. alpinus* L., l.c. (excl. syn.) See T. & G. Fl. N. Am. 2: 500. 1843. Not *L. canadensis* L.

S. leucophacus Willd. Sp. Pl. 3: 1520. 1804 (excl. syn. Walt.)

Mulgedium leucophaeum DC., l.c. 250

Agathysus leucophaeus Beck, Bot. 170. 1833

Cicerbita leucophaea Wallr., l.c.

Galathenium multiflorum Nutt., l.c. 444

L. leucophaea A. Gray, Proc. Am. Acad. 19: 73. 1883. Not Sibth.

In moist soil. Frequent or common throughout most sections of the State, but rare on Long Island. The var. *integrifolia* (A. Gray) Britton, with undivided leaves or only the lower ones somewhat sinuate-pinnatifid, is frequent.

The Index Kewensis refers Kuntze's name to *L. alpina* (L.) B. & H., because *Sonchus spicatus* Lam., the name bringing synonym of Kuntze's combination, has been erroneously referred to *L. alpina* by European authors.

LYGODESMIA D. Don, Edinb. New Phil. Jour. 6: 311. 1829

Lygodesmia exigua A. Gray, Proc. Am. Acad. 9: 217. 1874

Native of the western states. Established in waste ground at Highland Park, Rochester, *Beckwith* (Proc. Rochester Acad. 5: 23. 1910).

CREPIS L. Sp. Pl. 805. 1753

Hieraciodes [Moehr. 1736] Kuntze, Rev. Gen. Pl. 344. 1891

1 *Crepis tectorum* L., l.c. 807

Narrow-leaved hawkbeard

In waste ground and on ballast. Infrequent across the State, especially about the larger cities. Naturalized from Europe.

- 2 **Crepis capillaris** (L.) Wallr. Fl. Hereyn. 287. 1840
Smooth hawksbeard
Lapsana capillaris L. Sp. Pl. 812. 1753
Crepis virens L. Sp. Pl. ed. 2, 1134. 1763
C. polymorpha Wallr. Sched. Crit. 426. 1822

In fields and waste places. Occasional as a weed especially about the larger cities and towns. Naturalized from Europe.

- 3 **Crepis biennis** L. Sp. Pl. 807. 1753 Rough hawksbeard
In waste places. A rare adventive. Native of Europe.
York, Albany, Rochester and a few other cities and towns. Adventive or naturalized from Europe.

- 4 **Crepis setosa** Hall. f. in Roem. Arch. 1: Pt 2, 1. 1797
In waste places. A rare adventive. Native of Europe.
Orient Point, Long Island, *Latham* (N. Y. State Mus. Bul. 150: 29. 1911).

HIERACIUM (Tourn.) L. Sp. Pl. 799. 1753

Section E u h i e r a c i u m

- 1 **Hieracium murorum** L., l.c. 802 Wall hawkweed
Formerly in Prospect Park, Brooklyn. Lloyd's Neck, Northport, *Jelliffe* (*Torrey* 4: 100. 1904). Canandaigua, *Webster* (*Proc. Rochester Acad.* 5: 99. 1917). Adventive or fugitive from Europe.

- 2 **Hieracium vulgatum** Fries, Fl. Hall. 128. 1817-18 Hawkweed
H. molle Pursh, Fl. Am. Sept. 503. 1814. Not Jacq. 1774

In waste places. Very rare as a weed near New York City. Adventive from Europe.

- 3 **Hieracium canadense** Michx. Fl. Bor. Am. 2: 86. 1803
Canada hawkweed

H. virgatum, *H. fasciculatum*, and *H. macrophyllum* Pursh, l.c. 504
H. Kalmii Spreng. Syst. 3: 646. 1825. Not L.

In dry woods. Frequent or common in most sections of the State north of the Hudson highlands and westward, especially in sandy soil. Rare on Long Island.

Section S t e n o t h e c a

- 4 **Hieracium paniculatum** L. Sp. Pl. 802. 1753
Panicked hawkweed
In dry woods. Frequent across the State southward, and com-

mon on Long Island and Staten Island. Not reported from the Adirondacks or the northern counties.

5 **Hieracium scabrum** Michx. Fl. Bor. Am. 2: 86. 1803

Rough hawkweed

In dry woods and clearings. Frequent throughout most sections of the State, but rare or absent in some portions of Long Island. Var. **tonsum** Fernald & St John, with glandless hairs toward the base of the stem, is to be looked for northward.

6 **Hieracium Gronovii** L. Sp. Pl. 802. 1753

Gronovius's or hairy hawkweed

In dry soil, usually in sandy places, frequent or common across the State in sandy sections. Not reported from the northern portion of the State.

7 **Hieracium marianum** Willd. Sp. Pl. 3: 1572. 1804

Maryland hawkweed

Stenotheca mariana Monn., l.c. 72

In dry woods and thickets, locally frequent in southeastern New York. Rare northward to Albany county and westward to Monroe county. Probably only a variety of *H. venosum*.

8 **Hieracium venosum** L. Sp. Pl. 800. 1753

Rattlesnake weed, poor robin's plantain

Stenotheca venosa Monn., l.c.

In dry woods and thickets, common across the State south of the Adirondacks and local or rare in certain sections of the Adirondacks as well as east and west of the Adirondack region. Common on Long Island and Staten Island.

9 **Hieracium florentinum** All. Fl. Ped. 1: 213. 1785

King devil

In fields, meadows and along roadsides, especially in dry or sandy soil. Becoming common in many sections. Naturalized from Europe.

10 **Hieracium Pilosella** L. Sp. Pl. 800. 1753

Mouse-ear hawkweed

In fields, dooryards and waste places. Infrequent or locally common as a weed. Naturalized from Europe.

11 **Hieracium floribundum** Winn. & Grab. Fl. Siles. 2: Pt. 2, 204. 1829

Smoothish hawkweed

In fields, a rare adventive in New York. Native of Europe.

- 12 *Hieracium pratense* Tausch, Flora 11: Pt. 1, Erg. 56. 1828
Field hawkweed
Fields and roadsides. Rare in northern New York. Adventive
or naturalized from Europe.

- 13 *Hieracium aurantiacum* L. Sp. Pl. 801. 1753
Orange or tawny hawkweed, devil's paint brush
In fields, woods and along roadsides. Very common in many
parts of the State. Naturalized from Europe. First seen on Staten
Island in 1875 and by 1883 it had spread northward to Port Henry
and westward to Oswego and Buffalo. An apparent hybrid between
this and *H. florentinum* occurs near Forestport, Oneida county.

NABALUS Cass. Dict. Sci. Nat. 34: 94. 1825

Harपालyce D. Don, Edinb. New Phil. Jour. 308. 1829. Not Moc. &
Sesse. 1825

- 1 *Nabalus altissimus* (L.) Hook. Fl. Bor. Am. 1: 294. 1833
Tall white lettuce

Prenanthes altissima L. Sp. Pl. 797. 1753

Harपालyce altissima D. Don, l.c.

In rich woods, and moist openings. Frequent or common in
most sections of the State, but rather rare in extensive sandy locali-
ties, and not recorded from the south side of Long Island.

Var. *ovatus* T. & G., Fl. N. Am. 2: 481, 1843. The cauline
leaves nearly all ovate, abruptly contracted into winged petioles.

Var. *cordatus* (Willd.) T. & G., l.c. (*Prenanthes cordata* Willd.
Hort. Berol. t. 25). Leaves mostly cordate on slender petioles.

Var. *deltoideus* (Ell.) T. & G., l.c. (*P. deltoidea* Ell. Bot. S. C.
& Ga. 2: 257. 1821; *N. deltoideus* & *N. cordatus* DC., l.c.). Leaves
deltoid, strongly repand-toothed; upper ones often cordate on mar-
gined petioles; radical and lowest cauline leaves triangular-hastate,
sometimes 3-parted.

Var. *dissectus* T. & G., l.c. Leaves all 3-parted or divided; seg-
ments either linear or deeply 2-3 cleft, the lobes narrowly lanceo-
late or linear. Perhaps the same as *N. trifolius* var. *dissectifolius*
Peck.

These varieties are usually transitional, or not well marked.

The var. *hispidula* Fernald (Fl. Vermont 89. 1900), has been col-
lected in Washington county.

- 2 *Nabalus albus* (L.) Hook. Fl. Bor. Am. 1: 294. 1833
Rattlesnake root, white lettuce

Prenanthes alba L. Sp. Pl. 798. 1753

P. rubicunda Willd. Sp. Pl. 3: 1537. 1804

P. suavis Salisb. Parad. Lond. pl. 85

H. alba D. Don, l.c.

N. suavis DC. Prodr. 7: 241. 1838

In woods and clearings, sometimes in open marshes. Frequent or common across the State, chiefly outside of the higher Adirondacks. Not reported from the south side of Long Island or from Bronx county, and rare on Staten Island, *Taylor*.

- 3 *Nabalus serpentarius* (Pursh) Hook, Fl. Bor. Am. 1: 294. 1833
Lion's-foot, gall of the earth

Prenanthes serpentaria Pursh, Fl. Am. Sept. 499. pl. 24. 1814

N. integrifolius Cass. Dict. Sci. Nat. 34: 95. 1825

N. Fraseri DC. Prodr. 7: 241. 1838; Torr. Fl. N. Y. 1: 416. 1843

H. serpentaria D. Don. l.c.

N. albus var. *serpentarius* T. & G. Fl. N. Am. 2: 480. 1843

In fields and thickets. Rensselaer and Saratoga counties westward to Lake Erie and southward. Infrequent or local northward, increasingly abundant southward in the State.

The form with entire leaves appears to be more frequent on the coastal plain and is perhaps worthy of varietal recognition as *Var. integrifolius* (Cass.) Britton.

- 4 *Nabalus trifolius* Cass. Dict. Sci. Nat. 34: 95. 1825
Tall rattlesnake root

P. trifoliata Fernald, in Brainerd, Jones & Eggleston, Fl. Vermont 89. 1900

In woods and thickets. Frequent or common throughout the northern and middle portions of the State. Less frequent westward, but increasingly abundant southward.

Var. *dissectifolius* Peck, 53d Rep't N. Y. State Mus. 850. 1900, with the leaves finely divided into numerous slender divisions, is also frequent. *N. altissimus* var. *dissectus* T. & G., l.c. 481.

- 5 *Nabalus nanus* (Bigel.) DC. Prodr. 7: 241. 1838
Low Rattlesnake root, lion's foot

P. alba var. *nana* Bigel. Fl. Bost. Ed. 2, 286. 1824

P. serpentaria var. *nana* A. Gray, Syn. Fl. 1²: 434. 1884

P. nana Torrey, in DC. Prodr. 7: 241. 1838

Rare on the subalpine summits of the higher Adirondacks.

Summit of Mount Marcy, *Torrey* (Fl. N. Y. 1: 417. 1843). Mount Marcy and Mount Whiteface, *Peck* (52d Rep't N. Y. State Mus. 667. 1899). Mount McIntyre, *Peck* (N. Y. State Mus. Bul. 28: 110. 1899).

- 6 *Nabalus Boottii* DC. Prodr. 7: 241. 1838.
Boott's rattlesnake root

P. Boottii D. Dietr. Syn. Pl. 4: 1309. A Gray, Syn. Fl. 1²: 435. 1884

Rare on the subalpine summits of the higher Adirondacks.

Summit of Whiteface, *Macrae* (Torrey, Fl. N. Y. 1: 417. 1843). Whiteface and Mount Marcy, *Peck* (23d Rep't N. Y. State Mus. 50. 1872; 27th Rep't 112. 1877; 52d Rep't 667. 1899).

2 *Ambrosia elatior* L. l.c.

Ragweed, Roman wormwood, wild tansy

A. elata Salisb. Prodr. 175. 1796

A. artemisiifolia T. & G. Fl. N. Am. 2: 291, mainly. 1842. Not L.

A. artemisiifolia quadricornis Kuntze, Rev. Gen. Pl. 305. 1891

In dry or moist soil. Common almost everywhere, usually as a weed in waste ground.

Leaves, at least the lower ones, mostly bipinnatifid with narrow segments; staminate heads about 3 mm broad; involucre slightly oblique; leaf segments lanceolate, acute and directed forwards. Illustrated as *A. artemisiifolia* by Britton & Brown, Illus. Fl. ed. 2, f. 4127; Clark & Fletcher, Farm Weeds Can. pl. 24; pl. 55. f. 58; ed. 2, pl. 57; pl. 75. f. 79.

A form from Lebanon Springs, A. K. Harrison, 1893, has the leaves more or less 3-pinnatifid into very small, narrow, acute segments, and is designated by the collector as a "parsley-leaved form."

Var. *artemisiifolia* (L.) comb. nov.

A. artemisiifolia L., l.c. 988

A. absinthifolia Michx. Fl. Bor. Am. 2: 183. 1803

A. heterophylla Muhl.; Willd. Sp. Pl. 4: 378. 1805

Lower leaves mostly pinnatifid with broad segments which are oblong, lobel, crenate or entire, obtuse; involucre saucer-shaped, not acute at the base, fully 4 mm wide. Rep't U. S. Comm. Agric. 1886: Bot. pl. 9.

Most recent manuals of botany have regarded this as the same as *A. elatior* L., under either one name or the other. The North American Flora (33: 18. 1922) regards them as distinct species, but an examination of numerous specimens of both forms indicates that *A. artemisiifolia* is but an extreme form of *A. elatior*, and not always distinct, intermediate forms occurring frequently.

3 *Ambrosia psilostachya* DC. Prodr. 5: 526. 1836

Western ragweed

A. Lindheimeriana Scheele, Linnaea 22: 156. 1849

A. coronopifolia var. (*asprula*, etc.) Gray, Bost. Jour. Nat. Hist. 6: 226. 1850

Along railroads and in waste ground at Rochester, Booth (Proc. Rochester Acad. 5: 20. 1910), and perhaps elsewhere.

XANTHIUM (Tourn.) L. Sp. Pl. 987. 1753

Acanthoxanthium Fourr. Ann. Soc. Linn. Lyon II. 17: 110. 1869.

1 *Xanthium spinosum* L., l.c.

Spiny or thorny clothbur

X. xanthocarpon Wallr. Beitr. Bot. 1: 241. 1844

Acanthoxanthium spinosum Fourr., l.c.

Locally frequent as a weed in waste grounds about cities, especially in the southeastern part of the State. Also at Albany, Troy and Buffalo. Naturalized from Europe and Asia.

2 *Xanthium Strumarium* L., l.c. European clothbur
Native of the north temperate and tropical regions of the Old World. Adventive in Massachusetts, and to be looked for in the vicinity of New York City.

3 *Xanthium speciosum* Kearney, Torr. Club Bul. 24: 574. 1897
Great clothbur
In waste ground. Westchester county and on Long Island (according to Taylor). Adventive from the West.

4 *Xanthium echinatum* Murr. Comm. Goett. 6: 32. pl. 4. 1783
Beach clothbur

X. maculatum Raf. Am. Mo. Mag. 344. 1818

X. strumarium Bigel. Fl. Bost. ed. 2, 342. 1824. Not L.

On or near the shores of the ocean, river beaches and occasionally in waste places. Common in the southeastern part of the State. Less frequent up the Hudson river to Troy, and also on the shores of Oneida lake, Lake Ontario and Lake Erie.

X. curvescens Millsp. & Sherff, Field Mus. Publ. Bot. 4: 25. 1919, from Orwell, Vermont, may be looked for in the Lake Champlain and Lake George regions, as may also *X. leptocarpum* Millsp. & Sherff, l.c. 3, described from Burlington, Vermont.

5 *Xanthium arcuatum* Millsp. & Sherff, Field Col. Mus. Bot. 4: 4. pl. 2. 1918
River shores and low places. Chemung county, T. F. Lucy, Oct. 11, 1896.

6 *Xanthium pennsylvanicum* Wallr. Beitr. Bot. 1: 236. 1842
Pennsylvania clothbur

X. canadense Britton & Brown, Illus. Fl. ed. 1, 1898. Not Mill.

X. affine Greene, Pittonia 4: 60. 1899

X. acutum Greene, l.c. 62

Banks of streams, open wet places and waste ground. Locally common in the southern and southeastern sections of the State.

7 *Xanthium chinense* Mill. Gard. Dict. ed. 8, No. 4. 1768
Northern clothbur

X. americanum Walt. Fl. Car. 231. 1788(?) — B. & B. Ill. Fl. ed. 2, 3: 346. f. 4139. 1913

X. Strumarium var. *canadense* Torr. Fl. N. Y. 1: 377. 1843

X. pungens Wallr., l.c. 231

X. canadense Rowlee, Torr. Club Bul. 20: 10. ff. g-m. 1893. Not Mill. 1768

X. Strumarium Britton & Brown, Illus. Fl. 3: 298. f. 3599. 1898. Not L.

Along banks and ditches, in moist waste ground and along railroads. Frequent or common throughout most sections of the State.

8 *Xanthium italicum* Moric.; Bragnatelli, Giorn. fis., chim. Dec.
II. 5: 326. 1822 Common clotbur

X. varians Greene, Pittonia 4: 59. 1899

X. glanduliferum Greene, l.c. 61

X. commune Britton, Man. 912. 1901

X. Macounii Britton, l.c. 913

In moist grounds and waste places. Frequent or common in most sections of the State outside of the higher Adirondacks and the sandy pine-barrens.

9 *Xanthium acerosum* Greene, Pittonia 4: 63. 1899

Acerose clotbur

Dresden trestle, Whitehall, Washington county, *Burnham*, Whitehall, *Peck*. Native of the middle and western states, from Wisconsin to North Dakota and Nebraska, and probably adventive at Whitehall.

Family 42 **CARDUACEAE** Neck. Act. Ac. Theod. Palat. 2:
465. 1770

(Compositae Adans. Fam. Pl. 2: 103. 1763)

Thistle family

VERNONIA Schreb. Gen. Pl. 2: 541. 1791

Cacalia (Burm. 1737) Kuntze, Rev. Gen. Pl. 323. 1891. Not L.

1 *Vernonia noveboracensis* (L.) Willd. Sp. Pl. 3: 1632. 1804
New York ironweed

Serratula noveboracensis L. Sp. Pl. 818. 1753

Serratula prealta L., l.c.

Behen noveboracensis & B. *pracaltum* Hill, Hort. Kew. 68. 1768

Serratula caroliniana Mill. Gard. Dict. ed. 8, No. 7. 1768

Vernonia prealta Michx. Fl. Bor. Am. 2: 95. 1803

V. tomentosa Ell. Bot. S. C. & Ga. 2: 288. 1821

V. Rugeliana Shuttlw.; A. Gray, Pl. Wright. 1: 82. 1852

Cacalia noveboracensis Kuntze, l.c.

In moist soil. Common on Long Island and Staten Island. Less frequent northward to the Hudson highlands and Ulster county, near Kingston. *Forma albiflora* Britton (Torr. Club Bul. 17: 124. 1890) with white flowers, has been found on Staten Island.

Involucral scales, or some of them, long acuminate, regularly and closely imbricated, arachnoid-ciliate, usually resinous, the outer ones sulcate with spreading tips, middle and inner ones with deltoid or ovate, purple tips, ending in a flexuous, filiform, appendage 1-5 mm long.

2 *Vernonia altissima* Nutt. Gen. 2: 134. 1818 Tall ironweed*V. albiflora* Raf. Herb. Raf. 29. 1833*V. noveboracensis* var. *praealta* (Willd.) T. & G.; Torr. Fl. N. Y. 1: 323. 1843*V. maxima* Small, Torr. Club Bul. 27: 280. 1900*V. gigantea* Britton & Brown, Illus. Fl. Ed. 1. 1898. Not *V. gigantea* (Walt.) Trelease, of the southern states.

In moist meadows. Central New York westward. Rare.

Middleville, Herkimer county, *Miss M. Burns* (N. Y. State Mus. Bul. 157: 44. 1912). New Hartford, Oneida county, *Haberer* (N. Y. State Mus. Bul. 54: 945. 1902). Rochester (Proc. Rochester Acad. 3: 72. 1896). Wayne county, *Sartwell*. Hough in 1846, reported *V. noveboracensis* from Lewis county, which if a *Vernonia*, was doubtless this species.

Involucral scales regularly imbricated, ovate to oblong-ovate, glabrous or puberulent, sparsely ciliate or entire, obtuse or rounded to acute or short-cuspidate.

EUPATORIUM (Tourn.) L. Sp. Pl. 836. 1753 *

Section 1 Verticillata DC.

1 *Eupatorium purpureum* L., l.c. 837 Lowland purple boneset

E. purpureum L., l.c., as to descr. and incl. var. β , but excluding all preliminary references, except those under β .

E. verticillatum Lam. Encycl. 2: 405. 1786*E. fusco-rubrum* Walt. Fl. Car. 109. 1788*E. punctatum* Willd. Enum. Pl. Berol. 853. 1809*E. dubium* Willd. in Lam. Encycl. Suppl. 2: 606. 1811*E. purpureum* var. *maculatum* Darl. Fl. Cest. 453. 1837. T. & G. Fl. N. Am. 2: 82. 1841*E. maculatum* Wood, Class book 416. 1861. Not L.

Borders of swamps and in low marshy places, chiefly in sandy or gravelly soil. Common on the coastal plain of southern New York. Unknown northward.

Leaves ovate to ovate-lanceolate; abruptly contracted into the petiole, more or less three-nerved; plant somewhat viscid, scabrous-puberulent and with a strong odor when fresh; stems usually solid, finely purple-specked, not glaucous; inflorescence convex; florets 6-9, rarely 5-12; leaves in three's or four's, very rarely in two's or five's. Often recorded as *E. maculatum*.

2 *Eupatorium Bruneri* A. Gray, Syn. Fl. 1: 96. 1884

Bruner's or upland purple boneset

E. purpureum L., l.c. (as to citations 3 and 4)*E. Rydbergi* Britton, Man. 921. 1901*E. purpureum* var. *ternifolium* Wood, Classbook 416: 1861

* For discussion of the perplexing nomenclature of the species of *Eupatorium*, closely allied to *E. purpureum* L., see: Wiegand (*Rhodora* 22: 62 1920), and Mackenzie (*Rhodora* 22: 157-165. 1920). The treatment here follows that proposed by Mackenzie.

Open ground, borders of thickets and wet sedgy meadows. Common throughout the State north of the coastal plain.

Stems slender, mainly solid, markedly rough pubescent to nearly smooth, usually purplish, at least above, often greenish below, or sometimes deep purplish all over, when pale colored often more or less speckled or streaked with purplish lines, never glaucous; plant not viscid, and not strongly odorous; leaves elliptic-ovate or elliptic-lanceolate, or sometimes ovate-oval, tapering at the base, 3-nerved or pinnately veined; inflorescence or its divisions somewhat convex or more usually nearly flat; leaves in four's or five's, sometimes in six's rarely in three's, except in dwarf plants; florets 9-15, rarely 7-20, scarcely exerted.

Dwarfed plants are often smoother. Varies to forms with small inflorescence overtopped by the upper whorl of leaves: var. *foliosum* (Fernald) House, comb. nov. (*E. purpureum* var. *foliosum* Fernald). *E. maculatum* var. *urticifolium* Barratt, may belong here.

E. Bruneri was imperfectly described from a Colorado specimen and the extension of the name to include this common and variable upland purple boneset of the east is open to criticism.

3 *Eupatorium maculatum* L. Amoen. Acad. 4: 288. 1755

Tall or smooth purple boneset

E. purpureum L., l.c. (as to the first 2 pre-Linnaean citations); Britton & Brown, Illus. Fl. ed. 2, 3: 357. 1913

E. americanum Hill, Brit. Herb. 453. 1756

E. fistulosum Barratt, in Wood, Classbook 416. 1861

E. amoenum Pursh, Fl. Am. Sept. 514. 1814 ?

E. laevigatum Torrey; Eaton, ed. 2, 245. 1818

E. purpureum γ, *angustifolium* T. & G. Fl. N. Am. 2: 82. 1841

In moist or fairly dry situations, often in low or even wet soil, chiefly in thickets, edges of woods, and along streams or shores of lakes and ponds. Common on Long Island and Staten Island, especially on the coastal plain, and less frequent in the adjacent uplands northward to Rensselaer, Saratoga and Albany counties, and in the valleys and lowlands westward to Lake Erie.

Stems usually very tall, fistulose, purple and plainly glaucous, rarely speckled; leaves elliptic-lanceolate, tapering at the base, pinnately veined; neither the leaves nor the stem viscid or odorous, but the branches of the inflorescence often finely pubescent, the leaves in four's to six's, rarely in seven's, rather bluntly toothed; inflorescence usually large, convex; florets 5-7, rarely 3-8, scarcely exerted; corollas 3.5 to 4.8 mm long, rarely longer.

4 *Eupatorium trifoliatum* L. Sp. Pl. 837. 1753

Pale purple boneset

E. falcatum Michx. Fl. Bor. Am. 2: 99. 1803

E. purpureum var. *falcatum* Britton, Torr. Club Mem. 5: 321. 1894

E. purpureum Wood, Classbook 416. 1861

In rich, moist or even dry woodlands and thickets, chiefly in upland regions. Infrequent but widely distributed across the State south of the Adirondack region.

Stems slender, tall, usually solid, green with purple nodes, faintly or not at all glaucous; plant not viscid and not strongly odorous when fresh, rarely the stems faintly speckled; leaves lanceolate, ovate-oval or ovate, broadest below the middle and abruptly tapering with concave entire or subentire basal margins, pinnately veined, sharply toothed above the base; inflorescence convex, its branches nearly horizontal or at least widely spreading; florets 5-7, rarely 3-8 much exserted beyond the pale bracts; corollas 5.5-7.5 mm long, whitish when first opening; leaves in three's or four's, rarely in two's or five's.

Section *Subimbricata* DC.

Uncasia Greene, Leaflets 1: 13. 1903

5 *Eupatorium leucolepis* T. & G. Fl. N. Am. 2: 84. 1841

White-bracted thoroughwort

In sandy bogs. Rare on Long Island. Sag Harbor, *S. B. Buckley* (Torrey, Fl. N. Y. 1: 327. 1843).

6 *Eupatorium album* L. Mant. III. 1767 White thoroughwort

E. glandulosum Michx. Fl. Bor. Am. 2: 98. 1803

U. alba Greene, l.c.

In sandy soil. Infrequent or rare on Long Island and Staten Island.

Edward's pond, Suffolk county (Torr. Club Bul. 1: 47. 1870). Queens county, *Willis* Torrey, Fl. N. Y. 2: 517. 1843. Var. *subvenosum* Gray, Syn. Fl. 1²: 98. 1884; is also reported from Long Island.

7 *Eupatorium hyssopifolium* L. Sp. Pl. 836. 1753

Hyssop-leaved thoroughwort

E. linearifolium Walt. Fl. Car. 199. 1788

U. hyssopifolia Greene, l.c.

In sterile, usually sandy soil. Locally common on Long Island and Staten Island, and rare northward to the Hudson highlands.

5 *Eupatorium sessilifolium* L. Sp. Pl. 837. 1753

U. sessilifolia Greene, l.c.

In dry woods. Infrequent or rare across the State.

On Long Island and Staten Island and up the Hudson valley to northern Westchester county, *Taylor* (Fl. Vic. N. Y. 592. 1915). Saugerties, Ulster county, *Peck* (N. Y. State Mus. Bul. 131: 30. 1909). Oneida county, *Gray* (Sartwell herbarium).

- 6 *Eupatorium verbenaeifolium* Michx. Fl. Bor. Am. 2: 98. 1803
Rough or vervain thoroughwort

E. teucrifolium Willd. Sp. Pl. 3: 1753. 1804
U. verbenaeifolia Greene, l.c.

In moist or low ground, chiefly in the southeastern part of the State. Locally common on Long Island and Staten Island. Less frequent northward to Tarrytown, *I. H. Hall*, in Paine's Cat.

- 7 *Eupatorium rotundifolium* L. Sp. Pl. 837. 1753
Round-leaved thoroughwort

E. Marrubium Walt. Fl. Car. 199. 1788
U. rotundifolia Greene, l.c.

In dry or sandy soil. Frequent on Staten Island. Rare on Long Island, and not reported northward.

- 8 *Eupatorium pubescens* Muhl.; Willd. Sp. Pl. 3: 1755. 1804
Hairy thoroughwort

In dry or sandy soil. Rare on Staten Island (Rossville, *Leggett*, 24th Rep't N. Y. State Mus. 57. 1872). Not reported from Long Island or northward.

- 9 *Eupatorium Torreyanum* Short, 2d Suppl. Cat. Pl. Ky. 5. 1836
Torrey's thoroughwort

Reported from Hempstead plains and Garden City, Long Island by *W. C. Ferguson* (*Torreya* 22: 49. 1922).

- 10 *Eupatorium perfoliatum* L. Sp. Pl. 838. 1753
Common thoroughwort, boneset

E. connatum Michx. Fl. Bor. Am. 2: 99. 1803
U. perfoliata Greene, l.c.

In moist or wet places. Common throughout most sections of the State. Var. *truncatum* (Muhl.) Gray, Syn. Fl. 1¹: 99. 1884 (*E. truncatum* Muhl.; Willd., l.c. 1751), occasional with the typical form, and probably not a good variety. A form with purplish flowers (forma *purpureum* Britton), is sometimes seen.

- 11 *Eupatorium resinosum* Torr.; DC. Prodr. 5: 176. 1836
U. resinosa Greene, l.c.

In wet pine-barrens of Long Island. Very rare, and not recently collected. Long Island (state herbarium). Queens county *Willis* (*Torrey*, Fl. N. Y. 2: 518. 1843).

Section *Eximbricata* DC.*Krystenia* Neck. Elem. 1: 81. 1790*Batschia* Moench, Meth. 567. 1794*Ageratina* Spach, Hist. Veg. Phan. 10: 286. 184112 *Eupatorium urticaefolium* Reichard, Syst. 3: 719. 1780

White snakeroot

Ageratum altissimum L. Sp. Pl. 839. 1753. Not *E. altissimum* L.*E. ageratoides* L. f. Suppl. 355. 1781*Ageratina ageratoides* Spach, l.c.*Batschia nivea* Moench, l.c.*E. Fraseri* Poir. Encycl. Suppl. 2: 600. 1811*E. boreale* Greene, Rhodora 3: 83. 1901*Krystenia altissima* Greene, Leaflets 1: 8. 1903

In rich woods, moist meadows and openings. Common throughout most sections of the State, but rare on southern Long Island.

13 *Eupatorium aromaticum* L. Sp. Pl. 839. 1753

Smaller white snakeroot

E. ceanothifolium Muhl.; Willd. Sp. Pl. 3: 1755. 1804*K. aromatica* Greene, l.c.

In dry soil. Frequent on Long Island and Staten Island. To be looked for in Westchester county, but not yet reported north of the islands mentioned.

MIKANIA Willd. Sp. Pl. 3: 1742. 1804*Willughbaeya* Neck. Elem. 1: 82. Hyponym. 1790***Mikania scandens*** (L.) Willd. l.c. 1743

Climbing hempweed or boneset

Eupatorium scandens L. Sp. Pl. 836. 1753*Willughbaeya scandens* Kuntze, Rev. Gen. Pl. 371. 1891.*E. chenopodifolium* Poir. Encycl. Suppl. 2: 606

In swamps, and moist or wet soil, frequent or rare across the State south of the Adirondacks, more common southward.

LACINARIA Hill, Veg. Syst. 4: 49. pl. 46. 1762*Liatris* Schreb. Gen. Pl. 542. 17911 ***Lacinaria cylindracea*** (Michx.) Kuntze, Rev. Gen. Pl. 349. 1891

Cylindric blazing star

Liatris cylindracea Michx. Fl. Bor. Am. 2: 93. 1803*Liatris graminifolia* Willd. Sp. Pl. 3: 1636. 1804*Liatris flexuosa* Thomas, Am. Jour. Sci. 37: 328. 1839

Banks of the Niagara river near the falls, on the east side. *D. Thomas* (Torrey, Fl. N. Y. 1: 324. 1843).

2 *Lacinaria scariosa* (L.) Hill, Hort. Kew. 70. 1769

Large button snakeroot

Serratula scariosa L. Sp. Pl. 818. 1753

Liatris scariosa Willd. Sp. Pl. 3: 1635. 1804

Liatris squarrolosa Michx. Fl. Bor. Am. 2: 92. 1803

In dry soil, southeastern part of the State. Rare.

South side of Long Island; Rye, Westchester county and formerly at Clifton, Staten Island, *Taylor* (Fl. Vic. N. Y. 595. 1915).

3 *Lacinaria spicata* (L.) Kuntze, Rev. Gen. Pl. 349. 1891

Dense button snakeroot

Serrulata spicata L. Sp. Pl. 819. 1753

Liatris spicata Willd. Sp. Pl. 3: 1636. 1804

In moist soil on Long Island and Staten Island. Infrequent or local. Forma *albiflora* (Britton) House, N. Y. State Mus. Bul. 243-244: 69. 1923, occurs on Staten Island.

GUTIERREZIA Lag. Gen. & Sp. Nov. 30. 1816

Gutierrezia Sarothra (Pursh) Britton & Rusby, Trans. N. Y.

Acad. Sci. 7: 10. 1887

Broomweed

Solidago Sarothra Pursh, Fl. Am. Sept. 540. 1814

G. Euthamiae T. & G. Fl. N. Am. 2: 193. 1841

In dry or sandy soil, adventive at Rochester. Native of the western states.

SERRATULA L. Sp. Pl. 816. 1753

Serratula tinctoria L., l.c.

In waste places and on ballast. Staten Island. Rare. Adventive from Europe (*Hollick & Britton*, Torr. Bot. Club Bul. 9: 150. 1882).

GRINDELIA Willd. Gesell. Nat. Fr. Berl. Mag. 1: 260. 1807

Grindelia squarrosa (Pursh) Dunal, in DC. Prodr. 5: 315. 1836

Broad-leaved gum plant or tarweed

Donia squarrosa Pursh, Fl. Am. Sept. 559. 1814

G. grandiflora Hook. Bot. Mag. pl. 4628. 1852

G. nuda Wood, Bot. Gaz. 3: 50. 1878

In dry soil, occasional as a weed. Naturalized from the West. Montgomery, Orange county, *J. A. Crabtree* (State Mus. Bul. 157: 39. 1912). Granville, Washington county, *F. T. Pember* (State Mus. Bul. 150: 31. 1911). Rochester, *Miss F. Beckwith* (Proc. Roch. Acad. 5: 95. 1917). White lake, Oneida county, *House*.

The form without rays, var. *nuda* (Wood) Gray, has been found at Rochester.

CHRYSOPSIS (Nutt.) Ell. Bot. S. C. & Ga. 2: 333. 1824*Diplogon* Raf. Am. Mo. Mag. 2: 268. 1818. Not Poirét, 1811*Pityopsis* Nutt. Trans. Am. Phil. Soc. II. 7: 317. 1841**1 Chrysopsis falcata** (Pursh) Ell., l.c. 336

Sickle-leaved golden aster

Inula falcata Pursh, Fl. Am. Sept. 532. 1814*Pityopsis falcata* Nutt. Trans. Am. Phil. Soc. (II.) 7: 318. 1841*Diplogon falcatum* Kuntze, Rev. Gen. Pl. 334. 1891

In sandy soil, common on Long Island; rare on Staten Island.

Abundant near Easthampton (Torrey, Fl. N. Y. 1: 367. 1843).

2 Chrysopsis mariana (L.) Ell., l.c. 335

Maryland golden aster

Inula mariana L. Sp. Pl. ed. 2, 1240. 1763*Diplopappus marianus* Hook. Comp. Bot. Mag. 1: 97. 1835

In sandy or dry soil, in open places or thin woods, frequent or common on Long Island and Staten Island.

CHRYSOTHAMNUS Nutt. Trans. Am. Phil. Soc. (II.) 7: 323. 1841**Chrysothamnus pinifolius** Greene, Pittonia 5: 60. 1902Frequent on slopes of the Cobb's hill reservoir, Rochester. Adventive from the West (*Baxter* in Proc. Roch. Acad. 5: 95. 1917).**SIDERANTHUS** Fraser, Cat. 1813; Sweet, Hort. Brit. 227. 1826*Eriocarpum* Nutt. Trans. Am. Phil. Soc. II. 7: 320. 1841**Sideranthus gracilis** (Nutt.) Rydb. Colo. Agric. Exp. Sta. Bul. 100: 344. 1906*Dieteria gracilis* Nutt. Jour. Acad. Phila. 1: 177. 1847*Aplopappus gracilis* A. Gray, Pl. Fendl. 76. 1849Adventive from the southwest at Cobb's hill reservoir, Rochester, *M. S. Baxter, Florence Beckwith* (N. Y. State Mus. Bul. 150: 38. 1911; Proc. Rochester Acad. 5: 95. 1917).**SOLIDAGO** L. Sp. Pl. 878. 1753Subgenus **Virga-Aurea****Virga-Aurea** (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754Section **1 Chrysastrum****1 Solidago squarrosa** Muhl. Cat. 76. 1813

Stout ragged goldenrod

S. confertifolia Nutt. Jour. Acad. Phila. 7: 102. 1841*Aster Muehlenbergianus* Kuntze, Rev. Gen. Pl. 316. 1891

In rocky soil. Infrequent across the State south of the Adirondacks and southward to New York City.

Wooded slopes at Spuyten Duyvil and Riverdale, *Bicknell* (Torr. Club Bul. 7: 53. 1880). Cruger's, *Rusby* (Torr. Club Bul. 17: 140. 1890). Sam's Point, Ulster county, *Britton* (Torr. Club Bul. 10: 105. 1883). Abundant at Alexandria Bay, *Clinton*; Penn Yan, *Sartwell*; Rochester, *Booth* (Paine, Cat. Pl. Oneida Co. 93. 1865). Broome county, *Clute* (Fl. Upper Susquehanna 54. 1898). Wayne county and along Genesee river (Proc. Rochester Acad. 3: 72. 1896). Ravines and especially abundant on banks of Cayuga lake, *Dudley* (Cayuga Fl. 46. 1886). Rare, Buffalo, *Day* (Pl. Buffalo 43. 1883). Green Island, *Peck*. Letchworth Park, *Peck*. Collins, Erie county, *Dr Anna E. Perkins*. Dekalb and Saratoga, *Phelps*.

Forma **ramosa** (Peck) House, comb. nov. (*S. squarrosa ramosa* Peck, N. Y. State Mus. Bul. 139: 36. 1910), with branched inflorescence forming a pyramidal panicle. Corning, *Peck*.

Section 2 Glomeruliflorae

2 *Solidago caesia* L. Sp. Pl. 879. 1753 *

Blue-stemmed or wreath goldenrod

S. livida Willd. Enum. 890. 1809

S. gracilis Poir. in Lam. Encycl. 8: 476. 1808

S. caesia var. *paniculata* Gray, Proc. Am. Acad. 17: 189. 1882

In woods and thickets. Frequent or common throughout the State up to 3000 feet altitude in the Adirondacks. Rare on southern Long Island.

The common form northward is forma **axillaris** (Pursh) House, l.c. 62 (*S. axillaris* Pursh, Fl. Am. Sept. 542. 1814; *S. caesia* var. *axillaris* Gray, Proc. Am. Acad. 17: 189. 1882), with mainly simple stems, the thin leaves much exceeding the very small axillary clusters.

The state herbarium also contains a specimen exactly intermediate between this species and *S. flexicaulis*.

3 *Solidago flexicaulis* L. Sp. Pl. 879. 1753

Zigzag or broad-leaved goldenrod

S. latifolia L., l.c.

S. flexicaulis, β . *latifolia* Willd. Sp. Pl. 3: 2064. 1804

S. macrophylla Bigel. Fl. Bost. ed. 2, 305. 1824

*Gray (T. & G. Fl. N. Am. 2: 199. 1841) states that no specimens of *S. caesia* exist in the Linnaean herbarium, and that the species must rest upon "*Virga Aurea marilandica caesia glabra*" Dill. Elth. t. 307. f. 395. The specimens of *S. flexicaulis* in the Linnaean herbarium belong to *S. caesia*, but Gray (l.c.) gives excellent reasons for retaining the name *caesia*, chief among them because the specific phrase given by Linnaeus and the entire synonymy of *S. flexicaulis* belong to *S. latifolia*. Recent manuals have therefor adopted *S. flexicaulis* in the place of *S. latifolia*.

In rich or moist woods and openings. Common throughout most sections of the State. Rare on the north side of Long Island and not reported from the South side.

Varies considerably in degree of pubescence, shape and serration of the leaf-blades.

4 *Solidago bicolor* L. Mant. 114. 1767

White or pale goldenrod, silverrod

S. alba Mill. Gard. Dict. ed. 8, No. 26. 1768

S. erecta DC. Prodr. 5: 340. 1836

Aster bicolor Nees, Ast. 283. 1833

In dry, usually sandy or stony soil. Common across the State southward. Somewhat local northward in sandy or rocky situations and not rare at lower elevations in and about the Adirondack region.

5 *Solidago hispida* Muhl.; Willd. Sp. Pl. 3: 2063. 1804

Hairy goldenrod

S. hirsuta Nutt. Jour. Acad. Phila. 7: 103. 1834

S. bicolor var. *concolor* T. & G. Fl. N. Am. 2: 197. 1841

In dry, usually sandy or rocky soil. Common across the State especially southward, and frequent northward somewhat locally in dry sterile sandy or rocky situations. Varies greatly in the character of the leaves and indument, and often insufficiently distinct from the preceding species.

6 *Solidago erecta* Pursh, Fl. Am. Sept. 542. 1814

In dry, especially sandy soil. Rare on Long Island. Baiting Hollow, Peck (N. Y. State Mus. Bul. 25: 643. 1899).

7 *Solidago macrophylla* Pursh, Fl. Am. Sept. 542. 1814

Large-leaved goldenrod

S. thyrsoides E. Mey. Pl. Labrad. 63. 1830

S. leiocarpa DC. Prodr. 5: 339. 1836

S. virgaurea Bigel. Fl. Bost. ed. 2, 306. 1824 (excl. var.)

S. multiradiata Nutt. Trans. Am. Phil. Soc. N. S. 7: 328. 1841. Not Ait.

In rocky woods. Frequent in the Adirondack mountains above 3000 feet altitude, on most of the exposed summits and ridges. Rare or local below 2000 feet altitude, but widely distributed throughout the Adirondack region. White Lake and Trenton Falls, Oneida county, *Haberer* (Rhodora 7: 108. 1905).

Section 3 *Virgatae*

8 *Solidago Cutleri* Fernald, Rhodora 10: 87. 1908

Cutler's alpine goldenrod

S. Virgaurea var. *alpina* Bigel. Fl. Bost. ed. 2, 307. 1824

S. alpestris Porter, Torr. Club Bul. 20: 210. 1893. Not Waldst. & Kit.

Subalpine summits of the higher Adirondacks.

Summits of Mount McIntyre, Mount Wright and Wallface, *Peck* (N. Y. State Mus. Bul. 28: 103. 1899). Mount Marcy, *Peck* (52d Rep't N. Y. State Mus. 666. 1899).

9 *Solidago puberula* Nutt. Gen. 2: 162. 1818 Downy goldenrod
S. pubescens Ell. Bot. S. C. & Ga. 2: 381. 1821

In sandy or rocky soil. Common in the southeastern part of the State especially on Long Island, Staten Island and the lower Hudson valley. Somewhat local northward but generally distributed throughout the State especially in the sandy sections of the Ontario and St Lawrence basins and the Adirondack region below 2000 feet altitude. Apparently rare in the western part of the State.

10 *Solidago humilis* Pursh, Fl. Am. Sept. 543. 1814
Bog or swamp goldenrod

S. uliginosa Nutt. Jour. Acad. Phila. 7: 101. 1834*
S. stricta Torr. Fl. N. Y. 1: 358. pl. 54. 1843. Not Ait.

In swamps and bogs. Frequent or common across the State northward. Rare southward to the Catskill mountains and northern Westchester county, and westward, especially in the Ontario lowlands and the elevated hills of central and western New York to Lake Erie.

11 *Solidago speciosa* Nutt. Gen. 2: 150. 1818
Showy or Noble Goldenrod

In dry open woods and in thickets. Local or rare from Rensselaer county southward.

Harlem, 1861, *Austin*; *Burnsted*; *Allen*, 1865 (Clinton in 19th Rep't N. Y. State Mus. 74. 1866). Brunswick, Rensselaer county, *Howe* (39th Rep't N. Y. State Mus. 38. 1886). Long Island, but not recorded from Staten Island, *Taylor*.

12 *Solidago Randii* (Porter) Britton, Man. 937. 1901
Rand's goldenrod

S. Virgaurea var. *Randii* Porter, Torr. Club Bul. 20: 208. 1893
S. Virgaurea var. *Redfieldii* Porter, l.c.

* *S. uliginosa* Nutt. according to Torr. & Gray (Fl. 2: 216. 1841) included two things and as now construed is based upon Pickering's specimens from "sphagnous swamps and marshy thickets in Massachusetts." The other specimen of Nuttall's "*uliginosa*" belongs to *S. linoides* T. & G., now designated as *S. uniligulata*. *S. humilis* Pursh is probably the same thing as the Pickering specimens from farther northward. *S. humilis* Pursh, was referred by Torrey and Gray to *S. stricta* Ait., but recent floras have restricted *S. stricta* Ait. to a species south of our borders.

In dry, usually rocky situations. Occasional or frequent on most of the summits and exposed ledges of the Adirondack region above 2000 feet altitude.

Var. *monticola* (Porter) Fernald, *Rhodora* 10: 88. 1908

S. puberula var. *monticola* Porter, Torr. Club Bul. 19: 129. 1892

S. Virgaurea var. *monticola* Porter, Torr. Club Bul. 20: 209. 1893

S. Virgaurea var. *Deanei* Porter, Torr. Club Mem. 5: 320. 1894

A lower form on more exposed situations and usually at higher altitudes. Frequent on Mount Marcy, Mount McIntyre, Skylight, Santanoni and other elevated summits.

13 *Solidago racemosa* Greene, *Pittonia* 3: 160. 1897

Riverbank goldenrod

S. humilis Gray, Syn. Fl. 1: 148. 1884, in part. Not Pursh

S. Purshii Porter, Torr. Club Bul. 21: 311. 1894, as to plant described, but not as to type, i. e. the plant described by Pursh as *S. humilis*. Cf. Fernald, *Rhodora* 10: 90. 1908

On rocky river banks and in exposed rocky or sometimes sandy situations. Locally abundant across the northern part of the State, and locally in the Adirondacks up to 3000 feet altitude. Not reported from the Catskill region.

Section 4 *Maritimae*

14 *Solidago sempervirens* L. Sp. Pl. 878. 1753

Seaside goldenrod

S. laevigata Ait. Hort. Kew. 3: 215. 1789; Pursh, Fl. Am. Sept. 543. 1814

S. novaeboracensis Mill. Gard. Dict. ed. 8, No. 23. 1768. Not L.

S. angustifolia Ell. Bot. S. C. & Ga. 2: 388. 1821. Not Mill.

S. limnifolia Torr. Fl. N. & Mid. U. S. 304. 1824

In salt-marshes, on sea beaches and along tidal streams near the coast of southeastern New York. Common.

Section 5 *Secundiflorae*

15 *Solidago suaveolens* Schoepf, Reise ver. Nordamer. Staaten 1: 466. 1788

Sweet or anise-scented goldenrod

S. odora Ait. Hort. Kew. 3: 214. 1789

S. retrorsa Michx. Fl. Bor. Am. 2: 117. 1803

S. puncticulata DC. Prodr. 5: 332. 1836

In dry or sandy soil. Frequent or locally common across the State southward and in the southeastern part of the State. Infrequent or rare northward to the eastern and western Adirondack foothills and the Ontario lowlands.

16 *Solidago aestivalis* Bicknell, Torr. Club Bul. 42: 561. 1915

Early wrinkled-leaved goldenrod

Related to *S. rugosa* but distinguished from that chiefly by its smooth and purple striate-angled stem, smoother, lustrous leaf-blades; bracts broader and less tapering and not recurving in age, and the earlier period of blooming.

Frequent on Long Island according to Bicknell.

17 *Solidago rugosa* Mill. Gard. Dict. ed. 8, No. 25. 1768

Wrinkle-leaved, tall hairy goldenrod, botterweed

S. pilosa Mill., l.c. No. 9

S. recurvata Mill., l.c. No. 28

S. virginiana Mill., l.c. No. 11

S. altissima Ait. Hort. Kew. 3: 212. 1789. Not L.

S. hirta Willd. Enum. Hort. Berol. 891. 1809

S. altissima T. & G. Fl. N. Am. 2: 216. 1841. Not L.

S. altissima, *aspera*, *rugosa*, & *humilis* DC. Prodr. 5: 333. 1836

S. rigidula Bosc., ex DC., l.c.

Usually in damp thickets and borders of fields, woods and swamps, often in open places. Very common across the State northward, and in the Adirondacks up to 3000 feet altitude. Less common southward and rather rare in its typical form on Long Island.

Var. *villosa* (Pursh) Fernald, Rhodora 10: 91. 1908

S. villosa Pursh, Fl. Am. Sept. 536. 1814

S. altissima, β , T. & G. Fl. N. Am. 2: 216. 1841

S. humilis Desf. Cat. Hort. Paris, ed. 3, 402. 1829

Stem villous; leaves thinner, strongly and sharply serrate, sometimes nearly smooth above, and rather softly hairy on the veins beneath.

Locally common across the State, but more typical southward, and merging into *S. aestivalis* Bicknell. Northward often difficult to distinguish from typical *S. rugosa*.

Var. *aspera* (Ait.) Fernald, Rhodora 17: 7. 1915

S. aspera Ait. Hort. Kew. 3: 212. 1789

Leaves ovate-elliptical or oblong, serrate with small and sharp mostly appressed teeth, somewhat rugose, very scabrous above and scabrous-pubescent beneath.

In dry or sandy soil, chiefly in the southeastern part of the State. Frequent on Long Island. Rarely specimens from northward to the Adirondack foothills and the Ontario lowlands can with difficulty be referred to this variety which in this region appears to merge into the typical species.

x *S. asperula* Desf. l.c. 403. (*S. rugosa* x *sempervirens* Bicknell, Torr. Club Bul. 42: 560. 1915), is reported from Long Beach, Long Island, Bicknell.

18 *Solidago patula* Muhl.; Willd. Sp. Pl. 3: 2059. 1804

Rough-leaved or spreading goldenrod

S. asperata Banks; Pursh, Fl. Am. Sept. 537. 1814*S. angulata* Schrad. in DC. Prodr. 5: 331. 1836*Aster asperatus* Kuntze, Rev. Gen. Pl. 315. 1891

In swamps, bogs and wet thickets and borders of low woods. Frequent or common across the State, and in the Adirondacks up to 2500 feet altitude. Rare on Long Island.

19 *Solidago ulmifolia* Muhl.; Willd. Sp. Pl. 3: 2060. 1804

Elm-leaved goldenrod

S. lateriflora Ait. Hort. Kew. 3: 211. 1789. Not L.

In dry or rocky woodlands and copses. Infrequent across the State south of the Adirondacks, and rare on Long Island and Staten Island.

Big Flats and east of Elmira, Chemung county, *Lucy* (Clute, Fl. Upper Susquehanna 55. 1898). Adams basin and Bergen swamp, *Baxter* (Proc. Rochester Acad. 3: 73. 1896). Brunswick, Rensselaer county, *E. C. Howe*. Lansingburg and East Greenbush, *Peck*. Napanoch, Ulster county, *House*. Minnewaska, *Peck*. Salamanca, *Peck*. Wilton, Saratoga county, *Phelps*.

20 *Solidago Elliottii* T. & G. Fl. N. Am. 2: 218. 1841

Elliott's goldenrod

S. elliptica Ell. Bot. S. C. & Ga. 2: 376. 1821. Not Ait. 1789*Aster sublitoralis* Kuntze, Rev. Gen. 317. 1891

In swamps. Infrequent in the southeastern section of the State on Long Island, Staten Island and the tidal streams of Bronx and Westchester counties.

21 *Solidago neglecta* T. & G. Fl. N. Am. 2: 213. 1841

Swamp goldenrod

"Stem stout, smooth; leaves thickish, smooth and glabrous; the radical and lowest cauline leaves oblong or ovate-lanceolate, appressed serrate, petioled; the others elliptical or oblong-lanceolate, mostly acute at each end, sessile (often obscurely triplinerved) finely appressed-serrate; the upper entire; racemes short, dense, secund, somewhat spreading, disposed in an elongated or pyramidal somewhat leafy panicle; peduncles and pedicels nearly glabrous; scales of the 8-12 flowered involucre oblong, obtuse; rays rather large; achenia nearly glabrous."

In sphagnum bogs and their borders, sometimes in open marshes. Frequent across the State northward, and rare or local southward to Long Island and Staten Island. [*S. uniligulata* (DC.) Porter, var. *neglecta* (T. & G.) Fernald, *Rhodora* 23: 292. 1922].

- 22 *Solidago uniligulata* (DC.) Porter, Torr. Club Mem. 5: 320.
1894 Few-rayed goldenrod

Bigelovia (?) *uniligulata* DC. Prodr. 5: 320. 1836
S. linoides T. & G. Fl. N. Am. 2: 216. 1841. Not Soland.
Chrysoma uniligulata Nutt. Trans. Am. Phil. Soc. 7: 325. 1841
S. neglecta var. *linoides* A. Gray, Syn. Fl. 1¹: 154. 1884

In bogs and swamps. Infrequent across the State northward.
Rare southward to Van Cortlandt Park, New York City, *Taylor*.

Var. *levipes* Fernald, Rhodora 17: 7. 1915, with the
branches of the panicle and pedicels glabrous or glabrate and glutin-
ous, seems to include nearly all of the inland specimens of this species,
viz:

Penn Yan, *Sartwell*. Junius, Seneca county, *Sartwell*. Bergen
swamp, Genesee county, *Peck, House, Baxter*. Waverly, Tioga
county, *Fenno*.

- 23 *Solidago juncea* Ait. Hort. Kew. 3: 213. 1789
Early or sharp-toothed goldenrod

S. ciliaris Muhl.; Willd. Sp. Pl. 3: 2056. 1804
S. arguta T. & G. Fl. N. Am. 2: 214. 1841; Torr. Fl. N. Y. 1: 362. 1843.
Not Ait.
S. juncea var. *scabrella* A. Gray, Syn. Fl. 1¹: 155. 1884
Aster ciliaris Kuntze, Rev. Gen. Pl. 315. 1891

In dry or rocky soil. Frequent across the State northward. Less
common southward and throughout its range somewhat variable in
degree of pubescence and character of inflorescence.

- 24 *Solidago arguta* Ait. Hort. Kew. 3: 213. 1789
Cut-leaved goldenrod

S. Muhlenbergii T. & G. Fl. N. Am. 2: 214. 1841
S. Vaseyi Heller, Muhlenbergia 1: 7. 1900

In rich soil of open woods and thickets. Frequent or common
northward across the State, except at higher elevations in the Adiron-
dacks. Rare southward on Long Island and Staten Island, and (ac-
cording to Taylor) not reported from the Bronx.

Section 6 *Triplinerviae*

- 25 *Solidago canadensis* L. Sp. Pl. 878. 1753
Canada or rock goldenrod

S. humilius Mill. Gard. Dict. ed. 8, No. 16. 1768
S. canadensis glabrata Porter, Torr. Club Bul. 21: 310. 1894

Stems rather slender, often 3-4 feet tall, glabrous at least below,
often minutely pubescent above; leaves narrowly lanceolate, thin,
glabrous above, minutely pubescent beneath, usually sharply serrate,
the middle ones 2-4 inch long, $\frac{1}{3}$ to $\frac{3}{4}$ inch wide; heads very small,

crowded in recurved racemes forming dense broadly pyramidal panicles; pedicels strongly pilose; involucre bracts linear, mostly attenuate, greenish-straw color.

In thickets and rich soil in open woods. Common across the State northward. Less frequent southward to Columbia county, the Catskill mountains, and the uplands of the State westward to Lake Erie.

Var. **Hargerii** Fernald, *Rhodora* 17: 11. 1915, with villous stems and leaves closely cinereous-puberulent beneath, described from New England, occurs sparingly in the Hudson valley.

26 ***Solidago rupestris*** Raf. Ann. Nat. 14. 1820

Smooth Canada goldenrod

A tall smooth, slender extreme of the *S. canadensis* type, with leaves glabrous upon both surfaces, entire or nearly so, only the pedicels slightly pilose or glabrate.

Rocky stream banks and open woods. Rare in the northern part of the State. Specimens from St Lawrence county appear to belong here, although the species as now understood is given a range chiefly south and west of our borders.

27 ***Solidago lepida*** DC. Prodr. 5: 339. 1826

With the foliage and size of heads of somewhat intermediate between *S. canadensis* and *S. serotina*, but branches of the panicle strongly ascending or but slightly recurved.

Fernald (*Rhodora* 17: 8-9. 1915), states that the common form of this species eastward is a very large extreme of *S. elongata* Nutt. (*S. lepida* var. *elongata* Fernald, l.c. 9), with large leaves running well into the inflorescence. *S. lepida* has heretofore been considered a western species, but several collections from northern New York, which have been previously referred to *S. canadensis*, *S. canadensis glabrata*, or to *S. serotina*, agree with Fernald's description.

The range of this form in northern New York is not fully known but is probably confined to the region east of Lake Ontario and across the Adirondacks to Lake Champlain.

28 ***Solidago serotina*** Ait. Hort. Kew. 2: 211. 1789

Late goldenrod

S. glabra Desf. Cat. Hort. Paris ed. 3, 402. 1829

In thickets and moist woods, usually in rich or moist soil or depressions. Frequent or common throughout most sections of the State, especially northward and up to 3000 feet altitude in the Adirondacks.

Var. **gigantea** (Ait.) A. Gray, Proc. Am. Acad. 17: 179, 196. 1882

S. gigantea Ait., l.c.

S. serotina Willd., l.c. & T. & G., Fl. N. Am. 1841. Not Ait.

Common but not as a rule taller than the typical species, as the name might indicate; leaves with the lateral veins more prominent

beneath, and these more or less pilose-pubescent or hispidulous, sometimes the veins or even the whole under surface of the blades pubescent. Frequent throughout the same range as the typical species.

29 *Solidago altissima* L. Sp. Pl. 878. 1753

Tall, high or double goldenrod

S. scabra Muhl. Cat. 1813

S. canadensis var. *scabra* T. & G. Fl. N. Am. 2: 224. 1841

Usually in rather dry or rich soil in open places or in thickets. Frequent or common across the State, although often somewhat locally so. Rather more common in southeastern New York than northward and westward.

Var. *procera* (Ait.) Fernald, *Rhodora* 10: 92. 1908

S. procera Ait., Hort. Kew. 3: 211. 1789

S. canadensis var. *procera* T. & G., l.c.

S. rugosa pallida Peck, 46th Rep't N. Y. State Mus. 45. 1893

Stem and lower surface of the leaves more loosely pubescent with distinct hairs; branches of the inflorescence scarcely if at all recurved at the tip; heads a little larger and the rays slightly longer.

Uncommon across the State southward. Shokan, *Peck* (typical and distinct). Other collections indicate that the variety is not constant and merges into the typical form of the species.

30 *Solidago nemoralis* Ait. Hort. Kew. 3: 213. 1789

Gray, field or dwarf goldenrod, Dyer's weed

S. cinerascens Schw. in Ell. Bot. S. C. & Ga. 2: 375. 1821

Aster hispidus Kuntze, Rev. Gen. Pl. 316. 1891

In dry, usually sandy soil. Locally common across the State northward, and occasional in the Adirondacks in sandy localities. Increasingly common southward on Long Island and Staten Island.

In most of the specimens from the northern and western Adirondacks the conspicuous hoary indument of the coastal plant is nearly or quite lacking, and the akenes are slightly pubescent at the apex.

Subgenus *Oligoneuron*

Solidago, Sect. *Corymbosae* T. & G., Fl. N. Am. 2: 208. 1841, in large part

Oligoneuron Small, Fl. SE. U. S. 1188. 1903

31 *Solidago rigida* L. Sp. Pl. 880. 1753

Stiff or hard-leaved goldenrod

S. grandiflora Raf. Med. Repos. II. 5: 359. 1808

O. rigidum Small, l.c.

In dry sandy or gravelly soil. Rare in the lower Hudson valley, on Long Island, and in the western part of the State.

Along the Hudson at Copake, *Peck* (31st Rep't N. Y. State Mus. 52. 1879). Yonkers, *J. H. Pooley* (Torr. Club Bul. 2: 3. 1871). Hudson highlands and western part of State, *Torrey* (Fl. N. Y. 1: 359. 1843). Rare on Long Island, unknown on Staten Island and in the Bronx, *Taylor* (Fl. Vic. N. Y. 603. 1915).

32 *Solidago ohioensis* Riddell, Syn. Fl. West. States 57. 1835

Ohio goldenrod

In moist soil and boggy places. Rare or local in western New York.

(Formerly) in Lodi swamp, Syracuse, *Wibbe* (Torr. Club Bul. 10: 46. 1883). Yates county, *Sartwell*; various parts of western New York, *Kneiskern*, *Clinton*, and marly portions of Bergen swamp, Genesee county, *Paine* (Cat. Pl. Oneida Co. 93, 187. 1865). Rochester, Bergen swamp and Pittsford (Proc. Rochester Acad. 3: 73. 1896; 5: 19. 1910). Junius, Seneca county, *House*.

33 *Solidago Houghtonii* T. & G., Gray, Man. 211. 1848

Houghton's goldenrod

In this State known only from the marly bogs of Bergen swamp, Genesee county (*Paine*, Cat. 94. 1865. Proc. Rochester Acad. 3: 73. 1896).

Subgenus *Euthamia*

Euthamia Nutt. Gen. 2: 162. 1818

34 *Solidago graminifolia* (L.) Salisb. Prodr. 109. 1796

Bushy, fragrant or flat-topped goldenrod

Chrysocoma graminifolia L. Sp. Pl. 841. 1753

S. lanceolata L. Mant. 114. 1767

E. graminifolia Nutt., l.c.

E. camporum Greene, Pittonia 5: 74. 1902

In moist soil, fields and roadsides, sometimes in marshes, swamps and bogs or their borders. Common throughout the State but scarce or rare on southern Long Island.

Var. *Nuttallii* (Greene) Fernald, Rhodora 10: 92. 1908

E. graminifolia Nutt., l.c. as to description

E. Nuttallii Greene, l.c. 73

Leaves more pubescent; branches of the inflorescence hirtellous.

Somewhat rare or local northward and westward in the State, more frequent southward toward the coastal region.

Var. *galetorum* (Greene) House, N. Y. State Mus. Bul. 243-244: 45. 1923

E. galetorum Greene, Leaflets 2: 151. 1911

Stems mostly simple, with a narrow corymbose inflorescence of several or few heads, plant entirely glabrous; leaves shining green when fresh, with a suggestion of succulency (as described by

Greene), 3-7 cm long, 5-9 mm wide, acute or acuminate, but not attenuate, broadest near the base which is abruptly narrowed to an obtuse or rounded sessile base.

In bogs and on boggy shores of lakes and ponds in the Adirondacks, the shore of Oneida lake, Lake Ontario, and locally elsewhere in the region west of the Adirondacks in the St Lawrence basin.

35 **Solidago polycephala** Fernald, *Rhodora* 10: 93. 1908

Small-headed bushy goldenrod

E. floribunda Greene, *Pittonia* 5: 74. 1902. Not *S. floribunda* Wall.

A somewhat local species in New Jersey and eastern Pennsylvania, which is reported from Hewlett, Long Island, in borders of salt-marshes, by Taylor (Fl. Vic. N. Y. 604. 1915).

36 **Solidago Michauxii** House, nom. nov.

Narrow-leaved bushy goldenrod

S. lanceolata var. *minor* Michx. Fl. Bor. Am. 2: 116. 1803

E. minor Greene, *Pittonia* 5: 78. 1902

S. minor Fernald, *Rhodora* 10: 93. 1908. Not Mill. 1768

In sandy soil, chiefly south of our borders. In this State known only from Long Beach, Long Island, House, and Cutchogue, Latham, but doubtless of wider distribution on Long Island or Staten Island.

37 **Solidago tenuifolia** Pursh, Fl. Am. Sept. 540. 1814

Slender fragrant goldenrod, quobsque weed

E. tenuifolia Greene, l.c. 77

E. remota Greene, l.c. 78

Aster Euthamia Kuntze, Rev. Gen. Pl. 316. 1891

In dry sandy soil. Frequent or common on Long Island and Staten Island. Less frequent northward to the Hudson highlands. Said to be introduced on the sandbar of Irondequoit bay, Monroe county (Proc. Rochester Acad. 3: 73. 1896).

BELLIS (Tourn.) L. Sp. Pl. 886 1753

Bellis perennis L., l.c. European or garden daisy, marguerite

Native of Europe. Common in cultivation. Occasionally spontaneous or persistent or sometimes well established in waste places, on lawns and along roadsides in many parts of the State.

BOLTONIA L'Her. Sert. Angl. 16. 1788

Boltonia asteroides (L.) L'Her., l.c.

Aster-like boltonia

Matricaria asteroides L. Mant. 116. 1767

M. glastifolia Hill, Hort. Kew. 19: pl. 3. 1768

B. glastifolia L'Her., l.c.

In moist soil. Native from New Jersey southward and westward. Reported as a weed in Connecticut, but not definitely known from New York.

SERICOCARPUS Nees, Gen. & Sp. Ast. 148. 1833

- 1 **Sericocarpus linifolius** (L.) B.S.P. Prel. Cat. N. Y. 26. 1888
Narrow-leaved white-topped aster

Conyza linifolia L. Sp. Pl. 861. 1753

Aster solidagineus Michx. Fl. Bor. Am. 2: 108. 1803

S. solidagineus Nees, l.c. 149

Aster solidaginoides Willd. Sp. Pl. 3: 2024. 1804

In dry, usually sandy soil. Frequent on Long Island. Rare on Staten Island and in the Bronx. Not reported north of southern Westchester county.

- 2 **Sericocarpus asteroides** (L.) B. S. P. Prel. Cat. N. Y. 26. 1888
Toothed white-topped aster

Conyza asteroides L. Sp. Pl. 861. 1753

Aster conyzoides Willd., l.c. 2043

A. marylandicus Michx. Fl. Bor. Am. 2: 108. 1803

A. leucanthemus Raf. Med. Repos. II. 5: 359. 1808

S. conyzoides Nees, l.c. 150

In dry woods. Common southward in the State, especially in sandy or rocky situations. Less common northward to Saratoga, Lewis, Monroe and Erie counties.

ASTER L. Sp. Pl. 872. 1753

Subgenus **Euaster**

Section 1 **Biotia**

- 1 **Aster carmesinus** Burgess; Britton & Brown, Illus. Fl. 3: 356. f. 3735. 1898
Crimson wood aster

On shaded rocks in the lower Hudson valley, especially near Yonkers. (Torr. Club Mem. 13: 197. pl. 5. 1906).

Closely related forms have been described as:

A. castaneus Burgess; Small, Fl. SE. U. S. 1211. 1903; Torr. Club Mem. 13: 201. 1906

A. olivaceus Burgess, Torr. Club Mem. 13: 204. 1906

- 2 **Aster tenebrosus** Burgess; Britton & Brown, Illus. Fl. 3: 357. f. 3736. 1898
Slender wood aster

In moist shaded woodlands. Frequent in the southeastern part of the State, especially in the lower Hudson valley. (Torr. Club Mem. 13: 207. 1906).

- 3 *Aster Claytoni* Burgess; Britton & Brown, Illus. Fl. 3: 358.
f. 3740. 1898 Clayton's wood aster

In sunny or slightly shaded rocky places. Infrequent or local across the State south of the Adirondacks. (Torr. Club Mem. 13: 212. pl. 7. 1906; Britton & Brown, ed. 2, 3: 410. f. 4287. 1913).

Closely related forms are:

- A. ebeneus* Burgess, Torr. Club. Mem. 13: 227. 1906
- A. mollescens* Burgess, l.c. 229
- A. ardens* Burgess, l.c. 232
- A. arcuatus* Burgess, l.c. 240
- A. sociabilis* Burgess, l.c. 242
- A. ulmarius* Burgess, l.c. 244

- 4 *Aster scutiformis* Burgess, l.c. 237

Shield-shaped woodland aster

Moist, usually shaded, often rocky woodlands. Occasional or frequent in the Hudson valley.

- 5 *Aster divaricatus* L. Sp. Pl. 873. 1753 White wood aster

A. corymbosus Ait. Hort. Kew. 3: 207. 1789

In open woodlands and thickets, in rather dry soil. Common throughout the State, and in the Adirondacks below 3000 feet elevation. Burgess (Torr. Club Mem. 13: 127. 1906) describes as subspecies (or varieties): *alatus*, *cymulosus*, *curtifolius*, *deltoides* and *fontinalis*.

The following variations or forms are described as species:

- A. arenicola* Burgess, Torr. Club Mem. 13: 138. 1906
- A. atrovirens* Burgess, l.c. 140
- A. erectus* Burgess, l.c. 147
- A. fimbriatus* Burgess, l.c. 150
- A. fragrans* Burgess, l.c. 153
- A. excavatus* Burgess; Small, Fl. SE. U. S. 1211. 1903
- A. subinteger* Burgess, Torr. Club Mem. 13: 159. 1906
- A. sextilis* Burgess, l.c. 161
- A. stilettiformis* Burgess; Small, Fl. SE. U. S. 1211. 1903
- A. parthianus* Burgess, Torr. Club Mem. 13: 166. 1906
- A. camptilis* Burgess, l.c. 168
- A. archifolius* Burgess, l.c. 174
- A. capillaris* Burgess, l.c. 176
- A. virgularis* Burgess, l.c. 177
- A. rupicola* Burgess, l.c. 180
- A. circularis* Burgess, l.c. 184
- A. argillarius* Burgess, l.c. 186
- A. aucuparius* Burgess, l.c. 190
- A. listriiformis* Burgess, l.c. 193

Aster persaliens Burgess (l.c. 140), common in rocky woodlands of the Hudson valley northward to Albany county, is one of the most distinct forms of this species, and one which is perhaps worthy of specific or varietal recognition.

- 6 *Aster curvescens* Burgess; Britton & Brown, Illus. Fl. 3: 359.
1898 Dome-topped aster

In loose, moist shaded soil, in the southeastern part of the State.
(Torr. Club Mem. 13: 250. *pl.* 9. 1906; Britton & Brown, ed. 2,
3: 411. *f.* 4288. 1913).

Closely related forms are described as:

- A. oviformis* Burgess, Torr. Club Mem. 13: 253. 1906
- A. vittatus* Burgess, l.c. 256
- A. exacutus* Burgess, l.c. 260
- A. umbelliformis* Burgess, l.c. 257
- A. eriensis* Burgess, l.c. 261

- 7 *Aster glomeratus* (Nees) Burgess; Britton & Brown, Illus. Fl.
3: 258. 1898 Bernhardt's aster

Eurybia glomerata Nees, Gen. & Sp. Ast. 139. 1832

Biotia glomerata DC. Prodr. 5: 183. 1836

In moist thickets or swamps. Frequent across the State south of
the Adirondacks. Closely related forms are described as:

- A. julianus* Burgess, Torr. Club Mem. 13: 272. 1906
- A. limicola* Burgess, l.c. 273

- 8 *Aster Schreberi* Nees, Syn. Ast. 16. 1818; Britton & Brown,
Illus. Fl. ed. 2, 3: 411. *f.* 4289. 1913

Schreber's aster

In borders of woods and along fencerows in partial shade.
Frequent across the State south of the Adirondacks. The following
described as species, are closely related;

- A. rectifolius* Burgess, Torr. Club Mem. 13: 284. 1906
- A. amnicola* Burgess, l.c. 286
- A. sylvicola* Burgess, l.c. 289
- A. ambiguus* Bernhardt; Nees, Gen. Ast. 138. 1832; Burgess, l.c. 291
- A. subcymosus* Bernhardt; Nees, l.c.; Burgess, l.c. 295

- 9 *Aster macrophyllus* L. Sp. Pl. ed. 2, 1232. 1763

Large-leaved aster

In moderately dry soil, in shaded places. Common throughout
most sections of the State except at high elevations in the Adiron-
dacks. Four subspecies are described by Burgess (in Britton and
Brown, Illus. Fl. 3: 1898), as follows: *apricensis*; *sejunctus*;
velutinus and *pinguifolius*.

The following closely related forms are described as species.

- A. excelsior* Burgess, Torr. Club Mem. 13: 327. 1906
- A. biformis* Burgess, l.c. 331
- A. uniformis* Burgess, l.c. 333
- A. alleghaniensis* Burgess, l.c. 336
- A. sabulosus* Burgess, l.c. 337
- A. quadratus* Burgess, l.c. 339
- A. densatus* Burgess, l.c. 341

- 10 **Aster roscidus** Burgess; Britton & Brown, Illus. Fl. 3: 360. 1898 Dewy-leaved aster

In slight shade and rich cleared woodlands. Frequent across the State, except at high altitudes in the Adirondacks, southward to New York City (Britton & Brown, ed. 2, 3: 412. f. 4291. 1913; N. State Mus. Bul. 67: 19. 1903).

Var. **variifolius** Peck, N. Y. State Mus. Bul. 75: 23. 1904 (as subspecies), on the shore of Lake Ontario, near Mexico, Oswego county.

Closely related forms described as species, are:

A. ferox Burgess, Torr. Club Mem. 13: 348. 1906

A. iostemma Burgess, l.c. 351

A. gremialis Burgess, l.c. 353

- 11 **Aster violaris** Burgess; Britton & Brown, Illus. Fl. 3: 361. 1898; ed. 2, 3: 412. f. 4293. 1913 Violet-leaf aster

In shaded, moist places, sometimes in leaf-mold among rocks. Occasional across the State from the Hudson valley to Lake Erie.

Closely related forms described as species, are:

A. quiescens Burgess, Torr. Club Mem. 13: 382. 1906

A. granulatus Burgess, l.c. 385

A. Jussiei Burgess, l.c. 388

A. decaphyllus Burgess, l.c. 391

- 12 **Aster ianthinus** Burgess; Britton & Brown, Illus. Fl. 3: 360. 1898; ed. 2, 3: 412. f. 4292. 1913 Violet wood aster

On shaded banks and along woodland paths. Occasional across the State south of the Adirondacks, northward to St Lawrence county (*Phelps*).

- 13 **Aster multiformis** Burgess; Britton & Brown, Illus. Fl. 3: 361. 1898; ed. 2, 3: 413. f. 4294. 1913; Torr. Club Mem. 13: 367. 1906 Various-leaved aster

In moist shaded places. Occasional across the southern part of the State, and locally northward. Peck reports it from Minnewaska, Ulster county (N. Y. State Mus. Bul. 116: 18. 1907).

A closely related form described as **Aster elaeagnus** Burgess (Torr. Club Mem. 13: 373. 1906), is reported by *Peck*, from North Elba, Essex county (N. Y. State Mus. Bul. 116: 18. 1907).

- 14 **Aster nobilis** Burgess; Britton & Brown, Illus. Fl. 3: 361. 1898; Torr. Club. Mem. 13: 356. 1906 Noble aster

In leaf-mold of moist woods and thickets. Frequent across the State from Lake Champlain to Lake Erie, southward to the Hudson highlands.

Closely related forms, described as species, are:

A. ampliatus Burgess, Torr. Club Mem. 13: 359. 1906

A. sympodialis Burgess, l.c. 361

A. securiformis Burgess, l.c. 365

Section 2 *Calliastrum*

15 *Aster spectabilis* Ait. Hort. Kew. 3: 209. 1789

Low Showy aster, seaside purple aster

In dry, usually sandy soil, in fields, open woods and thickets. Frequent on Long Island and Staten Island. Rare northward into Westchester and Rockland counties. Erroneously reported from Syracuse.

16 *Aster Radula* Ait., l.c. 210

Low Rough aster

In bogs, swamps and low woods. Infrequent or rare on Long Island and Staten Island.

Valley Stream, *J. A. Bisky* (Torr. Club Bul. 14: 13. 1887). Mariner's Harbor, Staten Island, *R. G. Eccles* (Torr. Club Bul. 18: 213. 1891).

17 *Aster Herveyi* A. Gray, Man. ed. 5, 229. 1867

Hervey's aster

A. commixtus Kuntze, Rev. Gen. Pl. 315. 1891

Borders of oak woods in rather moist soil. Usually credited only to Long Island, but specimens agreeing, have been collected by *Peck*, northward to Voorheesville, Albany county, and at Blue Mountain lake, in the Adirondacks (46th Rep't N. Y. State Mus. 45. 1893), and from near the shore of Lake Ontario at Mexico, Oswego county, *Peck, Jones*. Included by Burgess in the Biotian Asters.

Section 3 *Asterellus*

Heterophylli

18 *Aster azureus* Lindl.; Hook. Comp. Bot. Mag. 1: 98. 1835

Sky-blue aster

A. oolentangiensis Riddell, Syn. Fl. W. States 55. 1835

A. capillaceus Burgess; Small, Fl. SE. U. S. 1215. 1903

On prairies, banks of streams and borders of woods. Infrequent or rare from Monroe county westward.

Rare near Rochester, *Searing* (Proc. Rochester Acad. 3: 74. 1896). Near the whirlpool of Niagara river, on the top and edge of the bank, 1865, *Clinton* (19th Rep't N. Y. State Mus. 74. 1866; Day, Pl. Buffalo, 42. 1883).

19 *Aster cordifolius* L. Sp. Pl. 875. 1753

Common blue wood aster

A. paniculatus Willd. Sp. Pl. 3: 2035. 1804. Not Lam.

A. heterophyllus Willd., l.c.

A. choralis Steele, Contr. U. S. Nat. Herb. 10: 372. 1911

In moist or rather dry soil of woods, thickets and roadside banks. Frequent or common in most sections of the State, but rare on the southern side of Long Island and not reported from the higher Adirondacks.

Var. *polycephalus* Porter, Torr. Club Bul. 21: 120. 1894, is rather frequent throughout the same range. A form of this variety with white rays was collected by *Peck* at Whitehall.

The size of the heads is not always as small as described, occasionally forms are found which seem to approach in this respect *A. divaricatus* and *A. Lindleyanus*.

20 *Aster Lowrieanus* Porter, Torr. Club Bul. 21: 121. 1894

Lowrie's aster

A. cordifolius var. *laevigatus* Porter, Torr. Club Bul. 16: 67. 1889

A. leiophyllus Porter, Torr. Club Bul. 20: 254. 1893

Occasional in open woods in the Hudson valley and the foothills of the Catskill mountains, southward to Long Island and Staten Island, westward to central and western New York.

Long Island and Staten Island, increasing northward to Orange, Rockland and Putnam counties, *Taylor* (Fl. Vic. N. Y. 610. 1915). Richmond Hill, Long Island, *Jelliffe* (*Torreya* 4: 100. 1904). Lake Mohonk and Shokan, *Peck* (45th Rep't N. Y. State Mus. 27. 1893; 46th Rep't 46. 1893). Not uncommon, *Clute* (Fl. Upper Susquehanna 57. 1898). Common (Proc. Rochester Acad. 5: 20. 1910).

Var. *lanceolatus* Porter, Torr. Club Bul. 21: 121. 1894 (*A. cordifolius* var. *lanceolatus* Porter, Torr. Club Bul. 16: 68. 1889; *A. Lowrieanus* var. *lancifolius* Porter, Torr. Club Mem. 5: 325. 1894), appears to be frequent in southern New York.

Var. *incisus* (Britton) Porter, Torr. Club Bul. 21: 121. 1894 (*A. cordifolius* var. *incisus* Britton, Torr. Club Bul. 19: 224. 1892; *A. Lowrieanus* *Bicknellii* Porter, Torr. Club Mem. 5: 325. 1894), Occurs at Riverdale, near New York City, *Bicknell*, at Minnewaska, *Peck* (53d Rep't N. Y. State Mus. 850. 1900) and other localities in the lower Hudson valley.

21 *Aster Lindleyanus* T. & G. Fl. N. Am. 2: 122. 1841

Lindley's aster

A. paniculatus Ait. Hort. Kew. 3: 207. 1789. Not Lam.

A. Wilsoni Rydb. Torr. Club Bul. 37: 138. 1910

Thickets and open places. Rare across the northern part of the State and along the St Lawrence river.

22 *Aster sagittifolius* Wedem.; Willd. Sp. Pl. 3: 2035. 1804

Arrow-leaved aster

A. paniculatus Muhl. Cat. 1813; Darl. Fl. Cest. 464. 1818. Not Lam.*A. hirtellus* Lindl. in DC. Prodr. 5: 233. 1836*A. urophyllus* Lindl., l.c.

In dry soil. Infrequent across the State from Lake Champlain to Lake Erie, south to Dutchess and Chemung counties.

Mechanicsville to Bemus Heights, Saratoga county, *Peck*; Sandy Hill, Washington county, *Burnham* (50th Rep't N. Y. State Mus. 122. 1897). Auburn, *I. H. Hall*; Yates county, *Sartwell* (Paine, Cat. Pl. Oneida Co. 91. 1865). Piffard, Livingston county and along railroad between Piffard and Rochester, *Peck* (40th Rep't N. Y. State Mus. 73. 1887). Elmira, *Lucy* (Clute, Fl. Upper Susquehanna 57. 1898). Common (Proc. Rochester Acad. 3: 74. 1896).

23 *Aster undulatus* L. Sp. Pl. 875. 1753

Wavy-leaved aster

A. diversifolius Michx. Fl. Bor. Am. 2: 113. 1803*A. paniculatus* Nutt. Gen. 2: 56. 1818. Not Lam.*A. sagittifolius* Ell. Bot. S. C. & Ga. 2: 362. 1824. Not Willd.

In dry soil. Common across the State, especially southward. In the Adirondacks, chiefly at lower elevations and in sandy localities up to 2000 feet elevation.

Patentes

24 *Aster patens* Ait. Hort. Kew. 3: 201. 1789

Later purple aster

A. undulatus Ell., l.c. 361. Not L.*A. patentissimus* Lindl. in DC. Prodr. 5: 232. 1836*A. amplexicaulis* Michx., l.c. 114

In dry, usually sandy or rocky soil, in open places and thickets. Common from Rensselaer, Washington, and Warren counties southward. Less frequent westward in central New York, the Ontario lowlands and western New York.

Var. *phlogifolius* (Muhl.) Nees, Gen. & Sp. Ast. 49. 1832

Aster phlogifolius Muhl.; Willd. Sp. Pl. 3: 2034. 1804

In its typical form, this appears quite distinct from *A. patens*, but practically all gradations between the two are frequent, and it is evidently best regarded as a variety. Common in eastern and southern New York, and locally westward.

Grandiflorii

25 *Aster novae-angliae* L. Sp. Pl. 875. 1753

New England aster

A. amplexicaulis Lam. Encycl. 1: 304. 1783 (excl. syn. Tourn.)*A. spurius* Willd. Sp. Pl. 3: 2032. 1804*A. concinnus* Colla, Hort. Rip. App. 3: t. 12. 1825. Not Willd.

In moist or dry fields and meadows and in and on the borders of woods and swamps. Common in most sections of the State.

Forma **geneseensis** House, N. Y. State Mus. Bul. 243-244: 40. 1923, with white ray flowers, near Rochester. Forma **rosarius** House l.c. 30. (*A. roseus* Desf. 1829, not Bieb. 1812; *A. novae-angliae* var. *roseus* DC.), with pink or rose-colored ray flowers is occasionally seen.

26 **Aster amethystinus** Nutt. Trans. Am. Phil. Soc. II. 7: 294.

1841

Amethyst-colored aster

A. bostoniensis Baker, Gard. Chron. 2: 744. 1884

In moist soil. Saratoga, Rensselaer and Schenectady counties, southward. Not Common.

Reesville, Schenectady county, *Wibbe* (Torr. Club Bul. 13: 39. 1886). Green island, Albany county, *Wibbe* (28th Rep't N. Y. State Mus. 47. 1876). North Greenbush, *Peck*. Woodlawn, New York City, *E. C. Howe* (Torr. Club Bul. 9: 35. 1882). New York Island, *Bicknell* (Torr. Club. Bul. 7: 121. 1880).

Punicea

27 **Aster puniceus** L. Sp. Pl. 875. 1753

Red-stalked or purple-stemmed aster

A. hispidus & *A. amoenus* Lam. Encycl. 1: 306. 1783

A. blandus Lodd. Bot. Cab. t. 959

In swamps, marshes and moist or wet places. Common throughout the State. Variable in regard to color of stem, degree of pubescence and shape of leaves. The most distinct varieties are:

Var. **demissus** Lindl. Bot. Reg. pl. 1636.

Var. **firmus** (Nees) T. & G. Fl. N. Am. 2: 140. 1841 (*A. firmus* Nees, Gen. & Sp. Ast. 66. 1832; *A. puniceus* var. *laevicaulis* Gray, Syn. Fl. 1²: 195. 1884).

Var. **lucidulus** Gray, l.c. 195. (*A. lucidus* Wenderoth, Flora 12: 1, Ergbl. 25. 1829, Not Moench; *A. puniceus* var. *lucidus* MacM. Met. Minn. 517. 1892.

Var. **compactus** Fernald, Rhodora 1: 189. 1899.

Brief descriptions of these varieties may be found in Robinson & Fernald (Gray's Man. ed. 7, 1908). They are often not clearly distinct, and sometimes intergrade with each other and with the typical form of the species. A form of the variety **firmus**, with white rays, has been collected at Hamlin, Monroe county, *Beckwith*, Penn Yan, *S. H. Wright*, and at Lake Pleasant, *Peck*.

28 **Aster tardiflorus** L. Sp. Pl. Ed. 2, 1231. 1763

Northeastern aster

A. patulus Lam. Encycl. 1: 308. 1783

A. pallens Willd. Enum. Hort. Berol. Suppl. 58. 1811

A. Tradescanti Hoffm. Phyt. Blatt. 86. t. D, f. 2. Not L.

A. acuminatus Nees, Ast. 16. 1818

A. abbreviatus Nees, l.c.

Along streams, in moist thickets and on banks. Frequent or locally common from Lake Champlain southward to Ulster and Delaware counties and westward across the State.

A series of several specimens collected by *Peck* at Shokan, indicate a rather extraordinary range of variation in the shape of the leaf-blades and in the form of the inflorescence, and *Pease* (*Rhodora* 19: 88-90. 1917) suggests that this is possibly a hybrid between *A. cordifolius* and *A. puniceus*.

29 *Aster prenanthoides* Muhl.; Willd. Sp. Pl. 3: 2046. 1804

Crooked-stemmed aster

In moist soil, borders of streams, in thickets and rich woodlands. Common across the State, and locally throughout most of the Adirondack region and the northern counties.

Abundant and variable in the Catskills. Specimens collected by *Peck* at Shokan indicate an apparent intergradation with *Aster tardiflorus*.

Var. *porrectifolius* Porter, Torr. Club Mem. 5: 326 1894 (*A. prenanthoides* var. *longifolius* Porter, Torr. Club Bul. 17: 16. 1890), has been collected at Shokan, Ulster county, *Peck* (52d Rep't N. Y. State Mus. 652. 1899) and at a few other localities in the Catskill region.

Concinni

30 *Aster laevis* L. Sp. Pl. 876. 1753

Smooth aster

A. rubricaulis Lam. Encycl. 1: 305. 1783

A. pennsylvanicus Poir. Encycl. Suppl. 1: 498. 1810

A. amplexicaulis Muhl.; Willd. Sp. 3: 2046. 1804

A. cyaneus Hoffm. Phyt. Blatt. 71. t. B. f. 1. Lindl. Bot. Reg. t. 1495

A. glaucescens Nees. Syn. Ast. 16. 1818

A. politus Nees, l.c.

In dry, usually sandy or rocky soil, or sometimes in moist thickets or rich soil in open places. Common or frequent across the State outside of the Higher Adirondacks.

Var. *amplifolius* Porter, Torr. Club Mem. 5: 324. 1894 (*A. laevis* var. *latifolius* Porter, Torr. Club Bul. 21: 121. 1894), with broader leaves, is rare.

Var. *concinnus* (Willd.) House, l.c. 15.

A. concinnus Willd. Enum. 884. 1809

Leaves extremely long and correspondingly narrow. In its typical form appearing quite distinct, but intergrades freely with the typical form of *A. laevis*. Occasional or frequent from Lake Champlain southward and westward across the State.

A form of the typical species, forma *Beckwithiae* House, with white ray flowers, occurs near Rochester.

Juncei

31 *Aster junceus* Ait. Hort. Kew. 3: 204. 1789

Rush or bog aster

- A. salicifolius* Richards. App. Frankl. Jour. Ed. 1, 478. 1823
A. laxiflorus vars. *borealis* & *laetiflorus* T. & G. Fl. N. Am. 2: 138. 1841
A. borealis Provancher, Fl. Canad. 1: 308. 1862
A. longulus Sheldon, Geol. Surv. Minn. 9: 18. pl. 2. 1894
A. junciformis Rydb. Torr. Club Bul. 37: 142. 1910

In swamps and especially in bogs or boggy depressions and marly bogs. Frequent across the northern part of the State, in central New York and westward to Lake Erie. Less abundant or local southward to Columbia, Greene, Tompkins and Tioga counties.

32 *Aster novi-belgi* L. Sp. Pl. 877. 1753

New York aster

- A. floribundus* Willd. Sp. Pl. 3: 2084. 1804
A. eminens var. *virgineus* Lindl. Bot. Reg. t. 1656 (white-flowered form)
A. latus T. & G. Fl. N. Am. 2: 134. 1841
A. longifolius A. Gray, Man. Ed. 5, 233. 1867

In swamps and along the shores of streams, lakes and ponds. Common along the Atlantic coast, and along streams and lakes throughout the Adirondack region. Locally frequent elsewhere across the State.

Var. *laevigatus* (Lam.) A. Gray, Syn. Fl. 1²: 189. 1884

- A. laevigatus* Lam. Encycl. 1: 306. 1783
A. mutabilis Ait. Hort. Kew. 3: 205. 1789. Not L.
A. brumalis Nees, Syn. Ast. 69. 1832
A. argutus Nees, l.c.

Smooth and glabrous throughout, leaves mostly oblong-lanceolate, little if at all thickened, the upper ones somewhat clasping by an abrupt or obscurely auricled base; involucre bracts in few ranks, rather short and with comparatively short acutish herbaceous tips. Commonly cultivated and naturalized in Europe. Apparently rare as a native plant in the eastern states.

Var. *litoreus* A. Gray, Syn. Fl. 1²: 189. 1884

- A. tardiflorus* Willd. Sp. Pl. 3: 2049. 1804. Not L.
A. adulterinus Willd. Enum. 884. 1809; Lindl. Bot. Reg. t. 1571

Plant rather rigid, mostly low, very leafy; leaves thickish, usually very smooth, oblong to lanceolate, the upper sometimes auriculate; bracts in several loose rows, all but the innermost with broadish obtuse tips, the outer ones usually spatulate. Chiefly in the salt-marshes and along shores on Long Island and Staten Island and the Westchester county shore of Long Island sound.

Var. *elodes* A. Gray, Syn. Fl. 1²: 190. 1884

- A. elodes* T. & G. Fl. N. Am. 2: 136. 1841
A. longifolius Gray, Man. 233. 1848. Not Lam.

Stems slender, often low and simple; leaves thickish, long, narrowly linear, entire, the uppermost small and bract-like; bracts

narrow, with short and mostly spreading acutish tips. In swamps on Long Island and southward, and in the Adirondacks.

Varieties *atlanticus* and *Brittonii* (Burgess, in Britton & Brown, Illus. Fl. Ed. 1, 3: 370, 371. 1898) are also found in the coastal region of the State.

33 *Aster longifolius* Lam. Encycl. 1: 306. 1783

Long-leaved aster

A. aestivus Ait. Hort. Kew. 3: 203. 1789

In swamps and moist ground. Frequent across the northern part of the State. Less abundant or rare in central and western New York and southward to Westchester county (*Hall*, in Paine, Cat. Pl. Oneida Co. 40. 1865; Torr. Club Bul. 2: 2. 1871).

Var. *villicaulis* A. Gray, Syn. Fl. 1²: 189. 1884, with stems and midribs of the leaves densely white-villous. Rare in the northern part of the State.

Concolores

34 *Aster concolor* L. Sp. Pl. ed. 2, 1228. 1763

Eastern silky aster

Virgulus concolor Raf. Fl. Tellur. 2: 46. 1836

Virgula concolor Raf.; DC. Prodr. 5: 243. 1836

In dry, usually sandy soil. Frequent on the south side of Long Island and rare on the western side of Staten Island.

Dumosi

35 *Aster lateriflorus* (L.) Britton, Trans. N. Y. Acad. Sci. 9: 10. 1889

Starved or calico aster

Solidago lateriflorus L. Sp. Pl. 879. 1753

A. diffusus Ait. Hort. Kew. 3: 205. 1789

A. divergens Ait., l.c.

A. Tradescanti Michx. Fl. Bor. Am. 2: 115. 1803. Not L.

A. miser Nutt. Gen. 2: 158. 1818

A. horizontalis Desf. Cat. Hort. Paris ed. 3, 402. 1812

A. parviflorus Darl. Fl. Cest. 446. 1834. Not Nees.

In dry or moist soil. Common in nearly all sections of the State. Consists of many races or varieties and forms, differing in leaf-form, inflorescence and pubescence. The most distinct of these varieties are:

Var. *glomerullus* (T. & G.) Burgess (*A. miser* var. *glomerullus* T. & G. Fl. N. Am. 2: 129. 1841), with simple or subsimple stems, leaves oblong-lanceolate, hispidulous; inflorescence small and axillary, or short, terminal and spicate.

Var. *hirsuticaulis* (Lindl.) Porter, Torr. Club Men. 5: 324. 1894 (*A. hirsuticaulis* Lindl.; DC. Prodr. 5: 242. 1836), usually slender, the stems and midveins of the elongated lanceolate leaves generally villous or hirsute; branches slender, spreading or ascending, simple. Common in woods and thickets. Sometimes regarded as a distinct species.

Var. *grandis* Porter, Torr. Club Mem. 5: 324. 1894 (*A. bifrons* Lindl., l.c. 243, Not All. *A. diffusus* var. *bifrons* Gray, Syn. Fl. 1²:

187. 1884. *A. lateriflorus* var. *bifrons* Fernald, Rhodora 10: 94. 1908). A luxuriant form, with large, thin leaves (1-1.5 dm long, 2.5-4 cm wide) and rather larger heads, loosely disposed on the spreading branches.

Var. *pendulus* (Ait.) Burgess (*A. pendulus* Ait. Hort. Kew. 3: 204. 1789), a form with narrower and less serrate leaves, verging toward *A. vimineus*.

Var. *thyrsoideus* (Gray) Sheldon, Torr. Club Bul. 20: 286. 1893 (*A. diffusus* var. *thyrsoideus* A. Gray, Syn. Fl. 1²: 187. 1884). Cinereous-pubescent or glabrate, with ovate-oblong to lanceolate leaves; branches ascending and often short, the thyrsoid or spicate-glomerate heads less secund. *Aster missouriensis* Britton.

Var. *variifolius* Peck appears to be the typical form of the species in regard to inflorescence, but extremely variable as to width of leaves on different plants, and even on the same plant.

36 *Aster vimineus* Lam. Encycl. 1: 306. 1783

Small white aster

A. Tradescanti T. & G. Fl. N. Am. 2: 129. 1841. Not L.

A. foliosus Ait. Hort. Kew. 3: 203. 1789

A. tenuifolius Ell. Bot. S.C. & Ga. 2: 347. 1824. Not L.

In moist soil. Frequent across the state outside of the higher Adirondacks. The so-called var. *foliosus* (Ait.) Gray (Syn. Fl. 1²: 186. 1884), occasionally sufficiently distinct to be regarded as a possible variety.

37 *Aster multiflorus* Ait. Hort. Kew. 3: 203. 1789

Dense-flowered aster, white wreath aster

A. ciliatus Muhl.; Willd. Sp. Pl. 3: 2027. 1804

A. multiflorus var. *stricticaulis* T. & G. Fl. N. Am. 2: 125. 1841

In dry open woods and thickets, often in fields. Frequent or common across the State from Lake Champlain to Lake Ontario and southward, outside of the Adirondack region.

Var. *exiguus* Fernald, Rhodora 1: 187. 1899, with heads solitary or slightly clustered at the tips of slender flexuous branches, is infrequent or rare.

38 *Aster dumosus* L. Sp. Pl. 873. 1753

Rice-button aster

A. sparsiflorus Michx. Fl. Bor. Am. 2: 112. 1803

A. fragilis Lindl. Bot. Reg. t. 1537

In sandy soil. Common along the Atlantic coast, especially on Long Island and Staten Island. Less common northward and westward to Rensselaer, Saratoga, Oneida, Lewis, Monroe and Erie counties.

Var. *coridifolius* (Michx.) T. & G. Fl. N. Am. 2: 128. 1841 (*A. coridifolius* Michx., l.c.; *A. foliolosus* Ell., l.c. 345; Not Ait.; *A.*

foliolosus var. *coridifolius* Nutt. Gen. 2: 155. 1818), with slender and flexuous, elongated branches, crowded with minute divergent leaves, and generally solitary terminal heads. Chiefly in sandy barrens along the coast.

Var. *strictior* T. & G., l.c. with the branches stiff and ascending, occasional with the typical form.

39 *Aster salicifolius* Lam. Encycl. 1: 306. 1783 Willow aster

A. praealtus Poir. Encycl. Suppl. 1: 493. 1810

A. eminens Willd. Enum. Hort. Berol. 886. 1809

A. rigidulus Desf. Cat. 122. 1815

A. obliquus Nees, Ast. 76. 1832

A. Greenei T. & G. Fl. N. Am. 2: 134. 1841

In moist soil. Frequent or somewhat local across the State, chiefly outside of the Adirondacks and higher Catskills. The extremely narrow-leaved form, (*A. stenophyllus* Lindl.; DC. Prodr. 5: 242. 1836), is perhaps a good variety.

40 *Aster paniculatus* Lam. Encycl. 1: 306. 1783

Tall white or paniced aster

A. dracunculoides Willd. Sp. Pl. 3: 2050. 1804

In wet meadows, thickets and open woods. Common in most sections of the State. Consists of many races or varieties, differing in leaf form, leaf serration, size of heads, color of rays and pubescence. The best marked of these are:

Var. *lanatus* Fernald, the stems densely white-villous or lanate. Rare in northern New York.

Var. *bellidiflorus* (Willd.) Burgess (*A. bellidiflorus* Willd. Enum. 887. 1809), leaves linear or narrowly lanceolate, mostly entire; branches ascending with numerous clustered heads.

Var. *simplex* (Willd.) Burgess (*A. simplex* Willd., l.c.; *A. latus* Willd., l.c. 116; *A. strictus* Poir., l.c. 498), leaves large and thin, oblong-lanceolate to oblanceolate, the cauline 1-2 dm long, 2-4 cm wide, entire or slightly serrate; heads scattered in leafy panicles.

Var. *acutidens* Burgess, leaves as in the preceding variety, but conspicuously and coarsely serrate; branches short, scarcely exceeding the subtending leaves.

Var. *cinerascens* Fernald, stems closely cinereous-puberulent; leaves dull green, scabrous above, lanceolate with slightly clasping bases, subentire. Rare in the Lake George and Lake Champlain regions.

41 *Aster Tradescanti* L. Sp. Pl. 876. 1753

Tradescant's aster, michaelmas daisy

A. miser Ait. Hort. Kew. 3: 205. 1789. Not L.

A. fragilis Willd. Sp. Pl. 3: 2051. 1804

A. leucanthemus Desf. Cat. 102. 1815. Poir. Encycl. Suppl. 1: 500. 1811

A. artemisiaefolius Poir., l.c.

A. parviflorus Nees, Ast. 99. 1832

In fields and swamps. Common across the State, except in the higher Adirondacks and northern counties where it is rare, local or sometimes absent. Most abundant in the eastern and southern sections of the State.

Var. *saxatilis* (Fernald) House, N. Y. State Mus. Bul. 243-244: 27. 1923

A. vimineus var. *saxatilis* Fernald, Rhodora 1: 188. 1899

A. saxatilis Blanchard, Am. Bot. 7: 27. 1904

In rocky situations in northern New York and New England (Dekalb, *Phelps*; Racquette Lake, *Peck*). Apparently a low race or depauperate development of this species, rather than a close relative of *A. vimineus*.

Ericoidei

42 *Aster Faxoni* Porter, Torr. Club Mem. 5: 323. 1894

Faxon's aster

A. polyphyllus Willd. Enum. 888. 1809. Not Moench, 1802

A. ericoides *Randii* Britton, in Britton & Brown, Illus. 3: 379. 1898

In rocky or gravelly soil and on moist cliffs. Rare in the southeastern part of the State.

Spring Valley, Rockland county; Gravesend and Wading River, Long Island, *Taylor* (Fl. Vic. N. Y. 614. 1915). To be looked for throughout the Hudson valley.

43 *Aster ericoides* L. Sp. Pl. 875. 1753

White heath aster, frostweed aster

A. sparsiflorus Michx. Fl. Bor. Am. 2: 242. 1803

A. tenuifolius Willd. Sp. Pl. 3: 2026. 1804

A. glabellus Nees, Ast. 107. 1832

A. pauciflorus Martens, Bul. Acad. Brux. 8: 67. 1841

In dry, usually sandy soil. Infrequent across the State south of the Adirondacks. Increasingly abundant southward and common on Long Island and Staten Island.

Var. *pilosus* (Willd.) Porter, Torr. Club Mem. 5: 323. 1894 (*A. villosus* Michx., l.c. 113. Not Thunb.; *A. pilosus* Willd. Sp. Pl. 3: 2055. 1804; *A. ericoides* var. *villosus* T. & G. Fl. N. Am. 2: 128. 1841), with the stems and the narrow leaves villous-hirsute, is frequent in the range of the species, especially southward.

44 *Aster Pringlei* (A. Gray) Britton, in Britton & Brown, Illus. Fl. 3: 379. 1898

Pringle's aster

A. ericoides var. *Pringlei* A. Gray, Syn. Fl. 1²: 184. 1884

On rocky banks. Occasional or rare in the Lake Champlain and Lake George regions and the eastern Adirondacks, southward to Rensselaer county. Probably of wider distribution at least in the Hudson valley.

Subgenus *Ionactis* (Greene)

Aster, Sect. *Ianthæ* Gray, Syn. Fl. 1²: 197. 1884
Diplopappus, Sect. *Ianthæ* T. & G., Fl. N. Am. 2: 181. 1841
Ionactis Greene, Pittonia 3: 245. 1897

45 *Aster linariifolius* L. Sp. Pl. 874. 1753

Stiff or savory-leaved aster

A. rigidus L., l.c.

A. pulcherimus Lodd. Bot. Cab. 1: t 6. 1817

Chrysopsis linariifolia Nutt. Gen. 2: 152. 1818

Diplostephium linariifolium Nees, Ast. 199. 1832

Diplopappus linariifolius Hook. Fl. Bor. Am. 2: 21. 1834

Ionactis linariifolius Greene, l.c.

In dry, sandy or rocky soil. Locally common across the State from Washington to Lewis counties and westward to Lake Erie. Increasingly common southward, especially on Long Island and Staten Island.

Two extremes or forms, as regards the inflorescence, are described as f. *monocephalus* House, and f. *lateralis* House, l.c. 14.

Subgenus *Orthomeris*Section 1 *Ptarmicoidei*

Unamia Greene, Leaflets 1: 6. 1903

46 *Aster ptarmicoides* (Nees) T. & G. Fl. N. Am. 2: 160. 1841

Upland white aster

Inula (*Chrysopsis*) *alba* Nutt. Gen. 2: 152. 1818

Doellingeria ptarmicoides Nees, Ast. 183. 1832

Diplopappus albus Hook. Fl. Bor. Am. 2: 21. 1834

Aster albus Eaton & Wright, Man. Bot. 146. Not Willd.

Eucephalus albus Nutt. Trans. Am. Phil. Soc. 7: 299. 1841

Unamia alba Rydb. Torr. Club Bul. 37: 146. 1910

In dry or rocky soil. Infrequent or rare from Washington county westward to Jefferson county and Lake Erie.

Whitehall, Washington county, *Peck*. Banks of Black river, Jefferson county, *Crawe*; *Gray*; banks of Genesee river, *Booth* (Paine, Cat. Pl. Oneida Co. 92. 1865). Banks of Black river below Watertown, *House*, 1921. Niagara river, *Clinton* (19th Rep't Regents 205. 1866). Indian hill, Onondaga county, *Goodrich* (Fl. Onondaga Co. 184. 1912).

Section 2 *Nemoralii*

Oclemena Greene, Leaflets 1: 6. 1903

47 *Aster acuminatus* Michx. Fl. Bor. Am. 2: 109. 1803

Whorled or mountain aster

A. divaricatus Lam. Encycl. 1: 205. 1783. Not L. 1753

Diplostephium acuminatum DC. Prodr. 5: 273. 1836

Oclemena acuminata Greene, l.c.

In moist woods, especially in the hilly and mountainous sections of the State. Common northward throughout the Adirondacks and the Catskills. Less frequent westward to Lake Erie and southward to Long Island and Staten Island.

48 *Aster nemoralis* Ait. Hort. Kew. 3: 198. 1789 Bog aster

A. uniflorus Michx. Fl. Bor. Am. 2: 110. 1803
A. ledifolius Pursh, Fl. Am. Sept. 544. 1814
Galatella nemoralis Nees, Ast. 173. 1832.
Eucephalus nemoralis Greene, Pittonia 3: 57. 1896
Oclemena nemoralis Greene, Leaflets 1: 5. 1903

In sandy bogs. Suffolk county, Long Island, and in bogs in the Adirondacks.

Between Riverhead and Canoe Place, Suffolk county, *E. S. Miller* (Torr. Club Bul. 7: 18. 1880). Long pond and Hitching's pond, Adirondack mountains, *Brown* (32d Rep't N. Y. State Mus. 24. 1880). Five ponds, northern Herkimer county, *Peck* (47th Rep't N. Y. State Mus. 29. 1894). Fifth lake, Hamilton county; Newcomb, Essex county, *House*.

Small or slender specimens with but a single inflorescence or head present a distinctive appearance, and is what Michaux described as *A. uniflorus*.

Aster acuminatus x *nemoralis*

A. nemoralis var. *major* Peck, 47th Rep't N. Y. State Mus. 155. 1894
A. nemoralis var. *Blakei* Porter, Torr. Club Bul. 21: 311. 1894
A. Blakei House, l.c. 219-220: 241. 1920

There can be little question but that this is a hybrid between *A. acuminatus* and *A. nemoralis*, although its appearance is usually more like the latter species. It has been collected at Five ponds, Herkimer county, by *Peck*.

Subgenus *Tripolium* (Nees)

Tripolium Nees, Gen. & Sp. Ast. 152. 1832
Aster, Sect. *Oxytripolium* T. & G. Fl. N. Am. 2: 161. 1841
Fimbristima Raf. Fl. Tellur. 2: 46. 1836
Mesoligus Raf., l.c. 44

49 *Aster tenuifolius* L. Sp. Pl. 873. 1753

Perennial salt-marsh aster

A. Tripolium Walt. Fl. Car. 210. 1788. Not L.
A. sparsiflorus Pursh, Fl. Am. Sept. 547. 1814
A. flexuosus Nutt. Gen. 2: 154. 1818
Tripolium flexuosum Nees, l.c. 155
F. flexuosa Raf., l.c.

In salt marshes along the Atlantic coast. Frequent.

Reported by Mrs Goodrich (Fl. Onondaga Co. 184. 1912) from the salt marshes near Syracuse. The report by Paine (Cat. Pl. Oneida Co. 187. 1865) of this species from Jordanville, Herkimer county, apparently refers to *A. junceus*.

50 *Aster subulatus* Michx. Fl. Bor. Am. 2: III. 1803

Annual salt-marsh aster

M. subulatus Raf., l.c.

A. linifolius T. & G. Fl. N. Am. 2: 162. 1841. Not L. 1753

Tripolium subulatum Nees, l.c. 156

Frequent or common throughout the salt-marsh areas along the Atlantic coast and up the tidal rivers and streams, especially in the Hudson river within the influence of salt water. Occurs also in the salt marshes near Syracuse, *Wibbe, Sheldon, Goodrich.*

DOELLINGERIA Nees, Gen. & Sp. Ast. 1832

1 *Doellingeria umbellata* (Mill.) Nees, l.c. 178

Tall flat-topped white aster

Aster umbellatus Mill. Gard. Dict. ed. 8. 1768

A. amygdalinus Lam. Encycl. 1: 305. 1783; Michx., l.c. 109

Chrysopsis amygdalina Nutt. Gen. 2: 153. 1818

Diplosiphium umbellatum DC. Prodr. 5: 272. 1836

Diplopappus umbellatus Hook. Fl. Bor. Am. 2: 22. 1834

In moist soil, often in swamps or marshes. Common throughout most sections of the State.

Var. *pubens* (A. Gray) House, N. Y. State Mus. Bul. 243-244: 23. 1923

A. umbellatus var. *pubens* A. Gray, Syn. Fl. 1²: 197. 1884

The lower surface of the oblong-lanceolate leaves tomentulose-pubescent. Ausable river, Essex county, *Peck*. More common west of our borders.

Var. *oneidica* House, l.c. 46.

Leaves firmer in texture, scarcely paler beneath, only the branches of the small, compact inflorescence pubescent; upper leaves conspicuously reduced and linear-lanceolate; pappus white. Frequent in sandy bogs in Oneida county.

Var. *latifolia* (A. Gray) House, comb. nov.

A. humilis Willd. Sp. Pl. 3: 2038. 1804

A. umbellatus var. *latifolius* A. Gray, l.c.

A. amygdalinus Bertol. Misc. 6: t. 5. f. 1. 1847

D. cornifolia Lindl. in Hook. Comp. Bot. Mag. 1: 98. 1835. Not Nees.

Diplopappus amygdalinus T. & G. Fl. N. Am. 2: 182. 1841

Doellingeria humilis Britton, in Britton & Brown, Illus. Fl., 3: 392. 1898

Stems usually tall; leaves ovate-lanceolate to ovate, comparatively short, less narrowed or sometimes rounded at the base. Chiefly south of our borders, reported from Millneck, Long Island, *W. C. Ferguson* (Torreya 22: 49. 1922) as *D. humilis*. Pappus dingy white in color.

Var. *flexicaulis* House, var. nov.

Stems slender, wiry, flexuous to more or less zigzag, glabrous except in the inflorescence, somewhat purplish in typical specimens;

leaves lanceolate, somewhat falcate, acuminate at the short-petioled base, long acuminate at the apex, paler beneath, the margins scabrous-ciliate, the blades otherwise entire and glabrous; inflorescence leafy, broadly and loosely compound corymbose, composed of 5 to 25, or rarely more heads on very slender, elongated, more or less arcuate and widely divergent, pubescent pedicels; involucre bracts pubescent, obtuse, green with whitish margins; achenes strongly nerved, 4.5-5.5 mm long, finely hirsute; pappus 5-6.5 mm long, nearly white, but with a very pale brownish or pale rusty tint.

Growing more or less suspended from crevices of shaly cliffs along Fish creek, north of Taberg, Oneida county, *House* 9155, September 27. 1922.

2 *Doellingeria infirma* (Michx.) Greene, *Pittonia* 3: 52. 1896
Cornel-leaved aster

Aster infirmus Michx. Fl. Bor. Am. 2: 109. 1803
A. cornifolius Muhl.; Willd. Sp. Pl. 3: 2039. 1804
A. humilis Willd. Hort. Berol. t. 67. 1809
Chrysopsis humilis Nutt. Gen. 2: 153. 1818
Doellingeria cornifolia Nees, Ast. 181. 1832 (partly)
Diplostephium cornifolium DC. Prodr. 5: 272. 1836

In dry, usually sandy or rocky soil. Infrequent from Rensselaer county southward.

Troy, *E. C. Howe*. Rare on Long Island and in the Bronx; unknown on Staten Island, *Taylor* (Fl. Vic. N. Y. 616. 1915). Cairo, Greene county, *House*. Napanoch, Ulster county, *House*. Sullivan Hill, Chemung county, *Lucy* (Clute, Fl. Upper Susquehanna 58. 1898). Oswego, *Kneiskern* (in Sartwell herbarium), but not since collected in this part of the State. Onondaga county, *Goodrich* (Fl. Onondaga Co. 185. 1912), but unverified.

MACHAERANTHERA Nees, Gen. & Sp. Ast. 224. 1832

1 *Machaeranthera pulverulenta* (Nutt.) Greene, *Pittonia* 4: 23. 1899
Tansy aster

Dieteria pulverulenta Nutt. Trans. Am. Phil. Soc. 7: 301. 1841

Native of the western states. Naturalized on the slopes of Cobb's hill reservoir, Rochester, *Beckwith* (Bul. N. Y. State Mus. 150: 33. 1911; Proc. Rochester Acad. 5: 96. 1917).

2 *Machaeranthera tanacetifolia* (H. B. K.) Nees, Gen. & Sp. Ast. 224. 1832
Tansy aster

Aster tanacetifolia H.B.K., Nov. Gen. & Sp. 4: 95. 1820

Cobb's hill reservoir, Rochester, *Baxter* (Proc. Rochester Acad. 5: 96. 1917). Adventive from the Southwest.

ERIGERON L. Sp. Pl. 863. 1753

- 1 *Erigeron hyssopifolius* Michx. Fl. Bor. Am. 2: 123. 1803
 Hyssop-leaved erigeron
Aster graminifolius Pursh, Fl. Am. Sept. 545. 1814

On moist cliffs along the Ausable river, northern Essex county,
Peck.

- 2 *Erigeron pulchellus* Michx. Fl. Bor. Am. 2: 124. 1803
 Robin's or poor robin's plantain
E. bellidifolius Muhl.; Willd. Sp. Pl. 3: 1958. 1804

In meadows, on hillsides and banks and sometimes in open moist woodlands, common across the State, but rare or lacking in the higher and northern Adirondacks.

- 3 *Erigeron philadelphicus* L. Sp. Pl. 863. 1753
 Philadelphia fleabane

In fields and woods, common in most sections of the State, rare on the coastal plain.

- 4 *Erigeron annuus* (L.) Pers. Syn. 2: 431. 1807
 Sweet scabious, white top

Aster annuus L. Sp. Pl. 875. 1753
E. heterophyllum Muhl.; Willd. Sp. Pl. 3: 1956. 1804
E. strigosum Bigel. Fl. Bost. ed. 2, 302. 1824. Not Muhl.
Stenactis annua Nees, Gen. & Sp. Ast. 273. 1832

In fields and waste places, frequent or common throughout most sections of the State.

- 5 *Erigeron ramosus* (Walt.) B. S. Prel. Cat. N. Y. 27. 1888
 Daisy fleabane

Doronicum ramosum Walt. Fl. Car. 205. 1788
E. strigosus Muhl.; Willd. Sp. Pl. 3: 1956. 1804
E. ambiguum Nutt. Gen. 2: 147. 1818
E. nervosum Pursh, Fl. Am. Sept. 534. Not Willd.
E. integrifolium Bigel. Fl. Bost. ed. 2, 302. 1824

In fields, woods and waste places, common in most sections of the State. Var. *discoideus* (Robbins) B. S. P., with reduced rays, in southern New York. Var. *septentrionalis* Fernald & Wiegand, reported from northern and western New York.

- 6 *Erigeron acris* L. Sp. Pl. 863. 1753
 Blue or bitter fleabane

Has been recorded as a waif in the vicinity of New York according to Taylor. Native of Europe.

LEPTILON Raf. Am. Mo. Mag. 2: 268. 1818

Caenotus Raf. Fl. Tellur. 2: 50. 1836

1 **Leptilon canadense** (L.) Britton; in Britton & Brown, Illus. Fl. 3: 391. 1898. Horseweed, fireweed, Canada fleabane

Erigeron canadense L. Sp. Pl. 863. 1753

Senecio ciliatus Walt. Fl. Car. 208. 1788

In fields, open woods and waste places. Common and often a troublesome weed. Frequent but not so abundant in calcareous soils.

2 **Leptilon pusillum** (Nutt.) Britton, Torrey 14: 198. 1914

Erigeron pusillus Nutt. Gen. 2: 148. 1818

In sandy soil on Long Island. Bayshore, Britton. Long Beach, Taylor.

BACCHARIS L. Sp. Pl. 860. 1753

Baccharis halimifolia L., l.c. Groundsel tree, groundsel bush

Common throughout the salt-marshes along the coast and up the Hudson river to Piermont, Rockland county, and near Ossining, Westchester county, Taylor.

GIFOLA Cass. Bul. Soc. Philom. 1819: 143. 1819

Filago L. Gen. Ed. 5, 1758. Not *Filago* L., 1753

Gifola germanica (L.) Dumort. Fl. Belg. 68. 1827

Cudweed, cotton rose, herb impius

Gnaphalium germanicum L. Sp. Pl. 857. 1753

Filago germanica L. Sp. Pl. ed. 2, 1311. 1763

In dry fields. A rather rare adventive in southeastern New York. Native of Europe.

PLUCHEA Cass. Bul. Soc. Philom. 1817: 31. 1817

Gymnostylis Raf. Am. Mo. Mag. 2: 268. 1818

Pluchea camphorata (L.) DC. Prodr. 5: 451. 1836

Spicy or salt-marsh fleabane

Erigeron camphoratum L. Sp. Pl. ed. 2, 1212. 1763

Conyza marilandica Michx. Fl. Bor. Am. 2: 126. 1803

C. camphorata Bigel. Fl. Bost. ed. 2, 299. 1824

P. marilandica DC., l.c. 452

In salt-marshes. Common along the coast of Long Island and Staten Island and up the Hudson river to Piermont, Rockland county, Taylor. Reported from the salt-marshes of Onondaga lake near Syracuse.

ANTENNARIA Gaertn. Fr. & Sem. 2: 410. *pl.* 167. 1791

1 **Antennaria canadensis** Greene, Pittonia 3: 275. 1898

Canadian cat's-foot

In dry or stony soil, sometimes in sandy meadows. Common or frequent across the State northward. Less common southward to Putnam and Delaware counties, and westward on the highlands of central and western New York to Lake Erie. Not reported from the southern tier of counties bordering on Pennsylvania.

Var. **Randii** Fernald, Proc. Bost. Soc. Nat. Hist. 28: 246. 1898. Oneida county, *J. V. Haberer, No. 3151* (1910).

Var. **Isabellina** Greene, House in Bul. N. Y. State Mus. 233-234: 14. 1922. Bracts and stems reddish, often the under surfaces of the cauline leaves tinged with red; basal leaves strongly apiculate; the outer bracts of the inflorescence with broader, white petaloid tips which are more conspicuous than in the typical species. Frequent in Herkimer and Oneida counties.

2 **Antennaria Parlinii** Fernald, Gard. & For. 10: 284. 1897

Parlin's cat's-foot

A. propinqua Greene, Pittonia 4: 83. 1899

A. plantaginifolia Greene, Pittonia 3: 173, 277, 278. 1898

A. arnoglossa Greene, Pittonia 3: 318. 1898

In rich soil, often in open woods. Infrequent or locally common from the west shore of Lake Champlain, and below 2000 feet in the Adirondacks, westward to St Lawrence county and Lake Erie, southward to Long Island.

Crown Point, *Peck*. Frankfort hill, Graefenberg, Hackedam swamp and Litchfield, Herkimer county, *Haberer 3229, 3229a, 3222, 2223, 3236*. Oriskany creek, East Utica, Marcy, New Hartford, Paris hill, Sanquoit and Clayville, Oneida county, *Haberer 2046, 2048, 2960, 3224, 3226, 3225, 3227, 3228*. Peterboro, Madison county, *Miller*. Chittenango Falls, *House 5512*. Genesee county, *Baxter 315*. Nassau county, *Klein*. Valley Stream, *R. M. Harper*.

Var. **arnoglossa** Fernald, Proc. Bost. Soc. Nat. Hist. 28: 243. 1898, includes scarcely distinct forms which possess broader involucre bracts in the pistillate heads, with white petaloid tips, the outer ones mostly obtuse, the inner hardly attenuate, typically less glandular, but few specimens can be found which do not show some glandular hairs on the stem.

3 **Antennaria occidentalis** Greene, Pittonia 3: 322. 1898

A. Farwellii Fernald in *Rhodora* 1: 152. 1899; Britton, Man ed. 3, 976. 1907. Not Greene

In open woods and meadows. Infrequent from Essex and Warren counties westward.

Crown Point, *Peck*. Glens Falls, *Burnham*. Norwich Corners, Litchfield, Hackedam and Utica, *Haberer*, 3258, 3234, 3246, 3248. Willowvale, Paris, Washington Mills, Holman City and New Hartford, Oneida county, *Haberer* 3243, 3244, 3247, 3249, 3251, 3238, 3255. East Rochester, *Baxter*, 319, 320. Perinton, *Baxter*, 336. Canton, *Phelps*.

4 ***Antennaria fallax*** Greene, *Pittonia* 3: 321. 1898

A. mesochroa Greene, *Pittonia* 5: 111. 1903

Open woods and fields. Common across the middle of the State. Less frequent northward to Essex and St Lawrence counties, and southward to Ulster county and New York City. Rare on Long Island.

Var. ***ambigens*** (Greene) Fernald, *Proc. Bost. Soc. Nat. Hist.* 28: 244. 1898 (*A. arnoglossa* var. *ambigens* Greene, *Pittonia* 3: 320. 1898; *A. ambigens* Fernald, *Rhodora* 1: 150. 1899). Typical forms of this possess copious purple glandular hairs mixed with the white indument of the stems and leaves. Examination of a large series of specimens reveals but very few specimens in which at least a few purple glandular hairs cannot be found. Specimens occur with purplish bracts with copious glandular hairs (typical var. *ambigens*), and with few or no glandular hairs.

5 ***Antennaria Brainerdii*** Fernald, *Rhodora* 1: 153. 1899

In rich meadows and open woods. Infrequent across the State northward and westward (at least to Onondaga county).

Keene and Elizabethtown, Essex county, *Peck*. Rossie, St Lawrence county, *Peck*. Near Syracuse, *F. C. Straub*.

6 ***Antennaria plantaginifolia*** (L.) Rich. *App. Frankl. Jour. ed.* 2, 30. 1823 Plantain-leaf everlasting

Gnaphalium plantaginifolium L. *Sp. Pl.* 850. 1753

G. plantagineum L. *Syst. ed.* 12, 545. 1766

A. plantaginea R. Br. *Trans. Linn. Soc.* 12: 129. 1817

A. decipiens Greene, *Pittonia* 3: 278. 1898

A. plantaginea var. *petiolata* Fernald, *Proc. Bost. Soc. Nat. Hist.* 28: 242. 1898

In dry woods and fields. Common across the State outside of the higher Adirondacks, southward to Long Island and Staten Island.

7 ***Antennaria petaloidea*** Fernald, *Rhodora* 1: 73. 1899

A. neodioica var. *petaloidea* Fernald, *Proc. Bost. Soc. Nat. Hist.* 28: 245. 1898

A. neglecta var. *subcorymbosa* Fernald, l.c., 246

A. campestris Fernald, l.c. 247

A. petaloidea var. *scariosa* Fernald, *Rhodora* 1: 73. 1899

A. alsinoides Greene, *Pittonia* 4: 83. 1899

Fields, banks and open woods. Frequent across the State northward, south to Dutchess, Ulster, Tompkins and Wyoming counties, perhaps of wider distribution westward in the State.

In central and western New York a form with broader leaves is abundant, the blades less distinctly petioled, the tips more rounded, rarely subacute.

Var. *noveboracensis* Fernald, *Rhodora* 24: 296. 1922.

Basal leaves oblanceolate or narrowly obovate, acute, 1.5-4 cm long, 0.5-1.2 cm broad; flowering stems 0.4-2.3 dm high, regularly leafy; corymbs rather crowded, the branches and pedicels short; involucre bracts petaloid.

Fernald cites specimens from Dryden, Freeville, Upper Cascadilla creek, Caroline, Danby, Newfield and Mendon, and the variety appears to be not uncommon throughout central New York. On account of its narrow leaves and rather dense corymbs it is likely to be confused, according to Fernald, with undeveloped *A. neglecta*, but in that species the upper cauline leaves instead of having firm subulate-aristate tips, bear thin scarious though often involute appendages.

8 *Antennaria neglecta* Greene, *Pittonia* 3: 173. 1897

In fields, meadows and open woods. Common across the State outside of the higher Adirondacks. Very abundant in the Hudson valley and westward through the hilly middle portions of the State, to Lake Erie. A form with but one head to the inflorescence is *A. neglecta simplex* Peck (N. Y. State Mus. Bul. 67: 33. 1903).

9 *Antennaria grandis* (Fernald) House, N. Y. State Mus. Bul. 176: 32. 1915

A. neodioica var. *grandis* Fernald, *Rhodora* 1: 73. 1899

In fields, meadows and open woods. Frequent across the State northward, but rare in the Adirondacks, southward to Dutchess, Ulster and Herkimer counties, westward.

Port Henry, *Peck*. Pattons Mills, Warren county, *Burnham*. Sandlake, Rensselaer county; Saugerties, Ulster county; North Albany, *Peck*. Hopkinton, Canton, Stockholm, Norfold and Mammon, St Lawrence county, *Mrs O. P. Phelps*. North Hannibal, Oswego county, *House*. Peterboro, Madison county, *Miller*. Penfield and East Rochester, Monroe county, *Baxter* 321, 317, 311, 312. Fall Brook, Oneida county, *Haberer* 3111. New Hartford, Clayville, Holman City, Paris, Oriskany, Whitesboro and Willowvale, Oneida county, *Haberer* 3122, 3130, 3131, 3371, 3260, 3123, 3117, 2033, 2970, 3122. Frankfort, Herkimer county, *Haberer* 3169, 3107, 3108. Litchfield, *Haberer* 1715.

10 **Antennaria oneidica** Greene, Leaflets 2: 149. 1911

Whitestown, Oneida county, *Haberer* 2600, June 4, 1904. Type presumably in the Greene herbarium. Duplicates in the State Museum and the U. S. National Herbarium.

11 **Antennaria neodioica** Greene, Pittonia 3: 184. 1897

A. neodioica var. *attenuata* Fernald, Proc. Bost. Soc. Nat. Hist. 28: 245. 1897

In open woods, fields and pastures. Common across the State outside of the Adirondack region, southward to Staten Island and Long Island.

Albany and Menands, *Peck*. Westport, Essex county, *Peck*. East Herkimer, Graefenberg hill, Herkimer county, *Haberer* 1861, 3101, 3119. Deerfield, New Hartford, Paris, Oriskany, Washington Mills, East Utica, south of Utica, Whitestown, Oneida county, *Haberer* 2017, 3120, 3123, 3369, 2831, 3129, 2057, 2027, 2026. Queens county, *R. M. Harper*. Ithaca, *Wiegand*. Saugerties, Ulster county, *Peck*. Central Park, Nassau county, *E. N. E. Klein*. Hicksville, *Klein*. Perinton and Greece, Monroe county, *Baxter* 328, 332, 335, 337, 309, 314.

Var. *chlorophylla* Fernald, Rhodora 24: 296. 1922

Differs from the typical form of the species in having basal leaves narrowly obovate or spatulate-oblancoelate, glabrous, green and shining above. Fernald cites the following New York collections: West Canada creek, *Haberer* 3070; Hidden lake, *Haberer* 1717; Cedar lake, *Haberer* 1718; and Deerfield, *Haberer* 2014 in part. These localities are all in Herkimer and Oneida counties.

ANAPHALIS DC. Prodr. 6: 271. 1837

Anaphalis Margaritacea (L.) Benth. & Hook. Gen. Pl. 2: 303. 1873

Pearly or large-flowered everlasting

Gnaphalium Margaritaceum L. Sp. Pl. 850. 1753

Antennaria Margaritacea Hook. Fl. Bor. Am. 1: 329. 1833

In dry soil, sometimes in open woods. Common throughout most sections of the State, outside of the higher Adirondacks.

GNAPHALIUM L. Sp. Pl. 850. 1753

1 **Gnaphalium obtusifolium** L., l.c. 851

Sweet or white balsam, sweet or fragrant life everlasting

G. polycephalum Michx. Fl. Bor. Am. 2: 127. 1803

In dry or moist soil, chiefly in open places, sometimes in woods. Frequent or common in most sections of the State, often appearing as a weed.

Var. **micradenium** Weatherby, *Rhodora* 25: 22. 1923

G. Helleri Britton of New York reports

Stems glandular-puberulent, not tomentose; leaves linear, acute or obtusish, 1.8-5.3 cm long, 1.5-7 mm wide, the lower surface tomentose, the upper glandular; scales of involucre mostly acute.

In fields and woods. Locally common in central and western New York, the lower Hudson valley and at Ronkonkoma, Long Island, *Ferguson* (*Torreyia* 22: 49. 1922).

2 **Gnaphalium Macounii** Greene, *Ottawa Nat.* 15: 278. 1902

Clammy everlasting, winged cudweed

G. decurrens Ives, *Am. Jour. Sci.* 1: 380. pl. 1. 1819. Not L.

In open, moist or dry places. Frequent or local across the State, outside of the higher mountains.

Unknown on Long Island and Staten Island; rare in Westchester county, *Taylor* (*Fl. Vic. N. Y.* 620. 1915). Frequent in Monroe county (*Proc. Rochester Acad.* 3: 75. 1896). Otisco, Onondaga county, *Goodrich*. New London, Oneida county; Fourth lake, Herkimer county, *House*. Round Lake, Saratoga county, *Peck*. Oswego, *Sheldon*. Dekalb, *Phelps*.

3 **Gnaphalium uliginosum** L., l.c. 856 Low or marsh cudweed

In damp soil, often appearing as a weed. Frequent or common across the State, but not reported from the higher or northern Adirondack region.

4 **Gnaphalium purpureum** L., l.c. 854 Purplish cudweed

In dry or sandy soil. Infrequent or local in distribution and chiefly in the southeastern part of the State, northward to Albany county and westward to Ontario county, *Baxter*.

INULA L. Sp. Pl. 881. 1753

Helenium (L. 1735), Kuntze, *Rev. Gen. Pl.* 342. 1891

Inula Helenium L., l.c.

Elecampane, horseheal

Helenium officinale Kuntze, l.c.

Along roadsides and in fields and thickets. Frequent in many sections of the State, especially southward. Naturalized from Europe.

OSTEOSPERMUM L. Sp. Pl. 923. 1753

Section *Polymniastrum*

Alymnia Neck. *Elem.* 1: 31. 1790

Polymniastrum Lam. *Illus. t.* 712. 1798; 3: 287. 1823

Polymnia, Sect. *Alymnia* & Sect. *Uvedalia* DC. *Prodr.* 5: 514. 1826

I Osteospermum Uvedalia L., l.c.

Yellow or large-flowered leafcup

Polymnia Uvedalia L. Sp. Pl. ed. 2, 1303. 1762

Polymniastrum Uvedalia Small & Carter, Fl. Lanc. Co. 302. 1913

In rich woods, usually in shaded or rocky ravines. Uncommon, local or rare from central New York westward.

Deep ravine of Chittenago creek; borders of Seneca lake, *Sartwell* (Paine, Cat. Pl. Oneida Co. 95. 1865). Jamesville, *House*. Indian Reservation, Onondaga county, *Goodrich* (Fl. Onondaga Co. 187. 1912). Ravine near Canandaigua lake, *E. J. Durand* (Proc. Rochester Acad. 3: 75. 1896).

Section Eupolymnia

Polymnia L. Sp. Pl. 926. 1753

Polymnia, Sect. *Eupolymnia* A. Gray, Syn. Fl. 1: 238. 1884

2 Osteospermum canadense (L.) House,* N. Y. State Mus. Bul. 243-244: 63. 1923
Small-flowered leafcup

Polymnia canadensis L., l.c.

In damp, rich shaded places. Locally common from Herkimer, Otsego and Broome counties westward. Reported eastward to Vermont.

Chemung Narrows, *Lucy* (Torr. Club Bul. 10: 9. 1883). South mountain, Broome county, *Millsbaugh*; Apalachin, Tioga county, *Fenno* (Clute, Fl. Upper Susquehanna 59. 1898). Common in Madison and Onondaga counties, *House*. Northern Otsego county, *House*. Henrietta, LeRoy and Bergen swamp, and "The Gulf," Genesee county, (Proc. Rochester Acad. 3: 75. 1896; 5: 97. 1917). Caledonia, *Beckwith*.

ACANTHOSPERMUM Schrank, Pl. Rar. Hort. Monac. pl. 53. 1819

Acanthospermum humile (Sw.) DC. Prodr. 5: 522. 1836

Reported as occurring on ballast at Gowanus, Long Island, *Hulst* (Jelliffe, in *Torreya* 4: 100. 1904). Adventive from the tropics.

SILPHIUM L. Sp. Pl. 919. 1753

I Silphium perfoliatum L. Sp. Pl. ed. 2, 1301. 1763

Cup plant, Indian cup

S. connatum L. Mant. 2: 574. 1771

In moist soil. Naturalized near New York City from the west or south.

**Osteospermum Uvedalia* L., is quite obviously the type of *Osteospermum*, both in the treatment by Linnæus and by Miller (Gard. Dict. 4th abr. ed. 1754). The Old World species heretofore left in *Osteospermum* should be placed either in *Gibraria* Cass. (1817), or in *Monilifera* Adans. (1763).

2 *Silphium trifoliatum* L. Sp. Pl. 920. 1753

Whorled rosinweed

In woods and thickets. Native chiefly west of our borders. Reported as occurring at Niagara Falls, *Eddy* (Torrey, Fl. N. Y. 1: 373. 1843), but not recently collected.

HELIOPSIS Pers. Syn. 2: 473. 18071 *Heliopsis helianthoides* (L.) Sweet, Hort. Brit. 487. 1827

Ox-eye, false sunflower

Bupththalmum helianthoides L. Sp. Pl. 904. 1753*Heliopsis laevis* Pers., l.c.? *Silphium helianthoides* & *S. solidaginoides* L., l.c. 920

In open places, central and western New York and southern and southeastern New York, infrequent or locally common.

Rare and local on Long Island and Staten Island, increasing northward, *Taylor* (Fl. Vic. N. Y. 622. 1915). Onondaga county *Goodrich* (Fl. Onondaga Co. 187. 1912). Common (Proc. Rochester Acad. 3: 76. 1896).

2 *Heliopsis scabra* Dunal, Mem. Mus. Paris 5: 56. pl. 4. 1810

Rough ox-eye

H. laevis var. *scabra* T. & G. Fl. N. Am. 2: 303. 1842

Usually in dry soil, infrequent across the State, chiefly south of the Adirondacks.

Staten Island, Long Island, Bronx and Westchester counties, *Taylor* (Fl. Vic. N. Y. 622. 1915). East Syracuse, *Goodrich* (Fl. Onondaga Co. 187. 1912). Canandaigua, *Gardner* (Proc. Rochester Acad. 5: 97. 1917). Rare (Proc. Rochester Acad. 3: 76. 1896). Island in Chemung river, *Lucy* (Clute, Fl. Upper Susquehanna 60. 1898). Newcomb, Essex county, *House*. Fine, St Lawrence county, *Phelps*.

VERBESINA L. Sp. Pl. 901. 1753**Verbesina alba** L. Sp. Pl. 902. 1753

Yerba de tajo

Eclipta erecta L. Mant. 2: 286. 1771*E. procumbens* Michx. Fl. Bor. Am. 2: 129. 1803*E. alba* Hassk. Pl. Jav. Rar. 528. 1848

Along streams and in waste places, vicinity of New York City. Naturalized from the South.

RUDBECKIA L. Sp. Pl. 906. 17531 *Rudbeckia triloba* L. Sp. Pl. 907. 1753

Thin-leaved coneflower

In moist soil. Rensselaer, Greene, Dutchess, and Ulster counties southward. Infrequent northward, increasingly common southward.

East Schodack, Rensselaer county and in Ulster county, *Peck* (N. Y. State Mus. Bul. 54: 958. 1902). Fishkill, Dutchess county, *Peck* (33d Rep't N. Y. State Mus. 17. 1880). West Hurley, Ulster county, *Peck*. High Falls, Greene county; Coeymans Hollow, Albany county, *House*. Rare on Long Island and Staten Island, and probably adventive, *Taylor* (Fl. Vic. N. Y. 623. 1915).

2 *Rudbeckia hirta* L. Sp. Pl. 907. 1753

Black-eyed Susan, yellow daisy

In fields, meadows and open woods. Common throughout most sections of the State. Naturalized from the West.

At the time of Torrey's Flora (1843), apparently rare, as Buffalo (*Sartwell*), was the only locality given. Several forms or races have been described which differ in pubescence and in the length and color of the rays. Forms with part or all of the rays tubular are occasionally found.

What is considered the typical form of *R. hirta*, is redescribed by T. V. Moore (*Pittonia* 4: 174. 1900), and a description is given of *Rudbeckia longipes*, a new species, from Taberg, N. Y. (*George G. Grower*), which is said to differ from *R. hirta* by having longer petioles to the root leaves, longer and narrower involucre bracts and rays and by its more slender and simpler habit.

3 *Rudbeckia fulgida* Ait. Hort. Kew. 3: 251. 1789

Orange or brilliant coneflower

R. spathulata Michx. Fl. Bor. Am. 2: 144. 1803

From Pennsylvania and New Jersey southward and westward. Reported from near Binghamton, Broome county, by *Millsbaugh* (Torr. Club Bul. 12: 101. 1885).

4 *Rudbeckia laciniata* L. Sp. Pl. 906. 1753

Tall or green-headed coneflower

In moist thickets, often along streams, common or frequent in most sections of the State, but not reported from the higher elevations of the Adirondacks nor from the coastal plain of Long Island.

5 *Rudbeckia speciosa* Wenderoth, Ind. Sem. Hort. Marb. 1828

Showy coneflower

In moist soil, New Jersey westward and southward. Reported from Staten Island as an adventive.

RATIBIDA Raf. Am. Mo. Mag. 2: 268. 1818*Lepachys* Raf. Jour. Phys. 89: 100. 1819**Ratibida pinnata** (Vent.) Barnhart, Torr. Club Bul. 24: 410. 1897
Gray-headed coneflower*Rudbeckia pinnata* Vent. Hort. Cels. pl. 71. 1800*Lepachys pinnata* T. & G. Fl. N. Am. 2: 314. 1842*L. pinnatifida* and *angustifolia* Raf. Jour. Phys. 89: 100. 1819*Rudbeckia digitata* Willd. Sp. Pl. 3: 2247. 1804

On dry prairies, western New York, westward. Rare.

Shore of Lake Erie, *Seytwell* (Torrey, Fl. N. Y. 1: 381. 1843).**ECHINACEA** Moench, Meth. 591. 1794*Brauneria* Neck. Elem. 1: 17. Hyponym. 1790**1 Echinacea purpurea** (L.) Moench, l.c. Purple coneflower*Rudbeckia purpurea* L. Sp. Pl. 907. 1753*Brauneria purpurea* Britton, Torr. Club Mem. 5: 334. 1894

Native from Pennsylvania to Alabama and westward. Sparingly adventive in New York, or escaped from cultivation.

Near St Johnsville, *I. H. Hall* (Torr. Club Bul. 1: 27. 1870).
Onondaga county, *Goodrich*. Albany, *L. C. Beck*.**2 Echinacea pallida** (Nutt.) Britton, Torr. Club Mem. 5: 333.
1894 Pale purple coneflower*Rudbeckia pallida* Nutt. Jour. Acad. Phila. 7: 77. 1834Along railroad at Adam's Basin, Monroe county, *Baxter* (Proc. Rochester Acad. 3: 76. 1896, as *E. angustifolia*). Adventive from the west.**HELIANTHUS** (Vaill.) L. Sp. Pl. 904. 1753**1 Helianthus annuus** L. Sp. Pl. 904. 1753 Common sunflower*H. lenticularis* Dougl., Bot. Reg. pl. 1265. 1829In waste places and along railroads, etc., escaped from cultivation.
Native of the western states.**2 Helianthus petiolaris** Nutt. Jour. Acad. Phila. 2: 115. 1821
Prairie sunflower

In waste places and along railroads, western New York. Infrequent. Naturalized from the western states.

Rochester, *Baxter*; railroad at East Rochester, *Baxter*; Cobb's Hill, *Beckwith*; The Gulf; Pittsford and Gates, *Fuller* and *Booth* (Proc. Rochester Acad. 5: 21, 97. 1910-17). Staten Island, *Hollick* (Torreya 22: 3. 1922).

3 **Helianthus angustifolius** L. Sp. Pl. 906. 1753

Narrow-leaved or swamp sunflower

In swamps and marshes along the south side of Long Island. Common. Less frequent on Staten Island and rare on the north side of Long Island.

4 **Helianthus orgyalis** DC. Prodr. 5: 586. 1836

Linear-leaved sunflower

Native of the region from Missouri and Nebraska southward and westward. Established at Riverdale, Bronx county, *W. P. Jervis*.

5 **Helianthus subrhomboides** Rydb. N. Y. Bot. Gard. Mem. 1:

419. • 1900

Rhombic-leaved sunflower

Native of the western states. Reported as adventive from New Jersey to New Hampshire.

Pittsford, Monroe county, *Booth & Fuller*, 1896 (Proc. Rochester Acad. Sci. 5: 21. 1910, as *H. scaberrimus*). More recently collected by *Baxter*.

6 **Helianthus giganteus** L. Sp. Pl. 905. 1753

Tall or wild sunflower

In swamps and wet meadows. Common in southeastern New York. Infrequent, rare or local northward to Essex county and westward to Lake Erie.

Var. **ambiguus** T. & G. Fl. N. Am. 2: 325. 1842 (*H. ambiguus* Britton, Man. 993. 1901), differs chiefly from *H. giganteus*, in having all but the uppermost leaves opposite and rounded at the base. It occurs on Long Island, and appears to be a hybrid between *H. giganteus* and *H. divaricatus*.

7 **Helianthus Maximiliani** Schrad. Ind. Sem. Hort. Goett. 1835

Maximilian's sunflower

Native of the western states. Locally adventive or naturalized eastward.

Pittsford, *Booth*; Gates, *Fuller* (Proc. Rochester Acad. 5: 21. 1910). Madrid, St Lawrence county, *Phelps*. Rare near New York, *Taylor* (Fl. Vic. N. Y. 625. 1915).

8 **Helianthus Dalyi** Britton, Jour. N. Y. Bot. Gard. 2: 89. 1901

Judge Daly's sunflower

On a dry bank near Sag Harbor, Long Island.

9 **Helianthus grosse-serratus** Martens, Sel. Sem. Hort. Loven.

1839

Saw-tooth sunflower

In dry soil on Long Island and Staten Island. Locally adventive northward to Glens Falls, *Burnham* (54th Rep't N. Y. State Mus. 143. 1903). Wilton, Saratoga county, *Mrs O. P. Phelps*

10 *Helianthus divaricatus* L. Sp. Pl. 906. 1753

Rough or woodland sunflower

In dry woodlands and in thickets and on banks. Common in most sections of the State except the higher Adirondacks.

11 *Helianthus mollis* Lam. Encycl. 3: 85. 1789

Hairy wild sunflower

In dry soil in southern New York. Rare. Adventive from the south or west. Recently reported from both Staten Island and Long Island, *Hollick* (*Torrey* 22: 2. 1922).

12 *Helianthus decapetalus* L. Sp. Pl. 905. 1753

Thin-leaved wild sunflower

In moist woods and along streams. Frequent across the State outside of the Adirondacks and not reported from the coastal plain of Long Island.

Var. *scrophulariaefolius* (Britton) House, N. Y. State Mus. Bul. 243-244: 70. 1923, is described from Woodlawn, New York City

13 *Helianthus hirsutus* Raf. Ann. Nat. 14. 1820

Native from Pennsylvania and Ohio, westward and southward, is reported as adventive on Staten Island, *Hollick* (*Torrey* 22: 3. 1922).

14 *Helianthus trachelifolius* Mill. Gard. Dict. Ed. 8, No. 7. 1768

Throatwort sunflower

Native from Pennsylvania southward and westward. A rare adventive in southeastern and southern New York.

15 *Helianthus strumosus* L. Sp. Pl. 905. 1753

Pale-leaved wood sunflower

H. macrophyllus Willd. Hort. Berol. pl. 70. 1806

In dry soil and on banks. Frequent or common along streams across the State outside of the higher Adirondacks. Hybridizes with *H. decapetalus*.

Var. *tomentulosus* House, nom. nov. (*H. mollis* Willd. Sp. Pl. 3: 2240. 1804. Not Lam., *H. strumosus* var. *mollis* T. & G. Fl. N. Am. 2. 327. 1841), with leaves canescently tomentulose beneath, is rare eastward, but occurs sparingly in western New York.

16 *Helianthus tuberosus* L. Sp. Pl. 905. 753

Jerusalem artichoke, earth apple

Common in cultivation, and infrequent or local as a wild species across the State south of the Adirondack region, and perhaps native only in the western part of the State.

GYMNOLOMIA H.B.K. Gen. & Sp. 4: 217. 1820

Gymnolomia multiflora (Nutt.) Benth. & Hook.; Hemsl. Biol. Cent. Am. Bot. 2: 62. 1882

Heliomeris multiflora Nutt. Jour. Acad. Phila. II. 1: 171. 1847

Native of the western states. Adventive and established at Cobb's hill reservoir, Rochester, *Beckwith* (Proc. Rochester Acad. 5: 97. 1917 — Bul. N. Y. State Mus. 157: 27. 1912).

RIDANIA Adams. Fam. Pl. 2: 130. 1763 (as *Ridan*)

Actinomeris Nutt. Gen. 2: 181. 1818

Ridania alternifolia (L.) Kuntze, Rev. Gen. Pl. 360. 1891; Britton & Brown, Illus. Fl. ed. 2, 3: 487. 1913, (as *Ridan*)

Wingstem, yellow ironweed

Coreopsis alternifolius L. Sp. Pl. 909. 1753

Actinomeris squarrosa Nutt., l.c.

A. alternifolia DC. Prodr. 5: 575. 1836

Verbesina alternifolia Britton; Kearney, Torr. Club Bul. 20: 485. 1893

V. Coreopsis Michx. Fl. Bor. Am. 2: 134. 1803

In rich soil or moist places. Rare in central and western New York.

Belle Isle, Onondaga county, *Goodrich* (Fl. Onondaga Co. 188. 1912). Western New York (Torrey, Fl. N. Y. 1: 384. 1843). Borders of Crooked lake, Yates county, *Sartwell* (Paine, Cat. Pl. Oneida Co. 96. 1865).

COREOPSIS L. Sp. Pl. 907. 1753

1 *Coreopsis rosea* Nutt. Gen. 2: 179. 1818

Small rose or pink tickseed

Calliopsis rosea Spreng. Syst. 3: 611. 1826

In open swamps and their borders. Frequent on eastern Long Island. Rare westward into Nassau county. Not reported from Staten Island.

2 *Coreopsis tinctoria* Nutt. Jour. Acad. Phila. 2: 114. 1821

Golden or garden tickweed

In moist soil. Escaped from gardens to roadsides in several localities. Native of the western states.

3 *Coreopsis lanceolata* L. Sp. Pl. 908. 1753

Lance-leaved tickseed

In dry or moist soil. Adventive or escaped from cultivation in a few localities in southern New York. Native from Ontario westward and southward.

BIDENS L. Sp. Pl. 831. 1753**1 Bidens leavis** (L.) B.S.P. Prel. Cat. N. Y. 29. 1888

Larger or smooth bur marigold

Helianthus laevis L. Sp. Pl. 906. 1753*Bidens chrysanthemoides* Michx. Fl. Bor. Am. 2: 136. 1803*B. lugens* Greene, Pittonia 4: 254. 1901

In swamps and wet meadows. Infrequent or rare across the State south of the Adirondack region. More common southward, especially near the coast.

2 Bidens cernua L., l.c. 832

Smaller or nodding bur marigold

Coreopsis Bidens L., Sp. Pl. 908. 1753*B. gracilentia* Greene, Pittonia 4: 255. 1901*B. prionophylla* Greene, l.c. 256

In wet soil, especially in swamps, marshes, along streams and shores of ponds and lakes. Very common northward across the State. Less frequent southward especially on Long Island.

3 Bidens connata Muhl.; Willd. Sp. Pl. 3: 1718. 1804

Purple-stemmed swamp beggarticks

At least the primary leaves 3-lobed, the two lateral oblong lobes broad based and conspicuously decurrent to the broadly margined petiole; the uppermost and rameal leaves usually unlobed, subsessile or with short margined petioles (Fernald *Rhodora* 10: 200. 1908).

Not uncommon in the Hudson valley and southeastern New York. Rare westward and northward.

Var. **petiolata** (Nutt.) Farwell, Am. Rep't Comm. Parks & Boulev. Detroit 11: 91. 1900

B. petiolata Nutt. Jour. Acad. Phila. 7: 99. 1834

All or nearly all of the leaves unlobed, tapering to slender or narrowly margined petioles.

The common form in nearly all swamps and wet places throughout New York State except the higher Adirondacks.

A form corresponding very closely to var. **gracilipes** Fernald, occurs in marshes along the east end of Lake Ontario.

4 Bidens comosa (Gray) Wiegand, Torr. Club Bul. 24: 436. 1897

Leafy-bracted tickseed

B. connata var. *comosa* A. Gray, Man. ed. 5, 261. 1867*B. riparia* Greene, Pittonia 4: 261. 1901*B. acuta* (Wiegand) Britton, Man. 1001. 1901

On sandy shores and in rich or moist soil. Frequent across the State southward. Rare northward and westward in the State where the range is somewhat uncertain.

- 5 **Bidens discoidea** (T. & G.) Britton, Torr. Club Bul. 20: 281.
1893 Small beggarticks

Coreopsis discoidea T. & G., Fl. N. Am. 2: 339. 1842

In swamps and wet places. Infrequent or rare across the State south of the Adirondacks.

Long Island, Staten Island and in the Bronx, *Taylor* (Fl. Vic. N. Y. 628. 1915). Near Oswego, *Wibbe* (34th Rep't N. Y. State Mus. 41. 1881; Torr. Club Bul. 10: 46. 1883). Shore of Dryden lake, *Dudley* (36th Rep't N. Y. State Mus. 38. 1884). Oneida lake shore, *Goodrich* (Fl. Onondaga Co. 189. 1912). Sandbar and Lake Ontario shore, Irondequoit, *Fuller* (Proc. Rochester Acad. 3: 77. 1896).

- 6 **Bidens frondosa** L. Sp. Pl. 832. 1753

Common beggarticks or sticktight

B. melanocarpa Wiegand, Torr. Club Bul. 26: 405. 1899

In moist soil. Common throughout the State, often as a weed in fields and waste places.

- 7 **Bidens vulgata** Greene, Pittonia 4: 72. 1899

Tall beggarticks

In moist soil. Infrequent or rare throughout most sections of the State.

- 8 **Bidens bipinnata** L. Sp. Pl. 832. 1753

Spanish needles, cuckolds

Locally abundant or common as a weed in various situations across the State south of the Adirondacks.

- 9 **Bidens trichosperma** (Michx.) Britton, Torr. Club Bul. 20: 281.
1893 Tall tickseed sunflower

Coreopsis trichosperma Michx. Fl. Bor. Am. 2: 139. 1803

In swamps and wet meadows. Uncommon in the southeastern part of the State, and not reported from west of the Hudson valley. Near Albany, *House*, where perhaps adventive from the South.

Var. **tenuiloba** (Gray) Britton, l.c.

C. trichosperma var. *tenuiloba* A. Gray, Syn. Fl. 1: 295. 1884

In wet meadows and borders of swamps. Frequent on Long Island and Staten Island.

- 10 **Bidens tenuisecta** A. Gray, Pl. Fendl. 86. 1849

Fields near Rochester, *Beckwith* (N. Y. State Mus. Bul. 139: 19. 1910). Adventive from the west.

MEGALODONTA Greene, Pittonia 4: 270. 1901**Megalodonta Beckii** (Torr.) Greene, l.c. Water marigold*Bidens Beckii* Torr.; Spreng. Neue Entdeck. 2: 135. 1821*M. nudata* Greene, l.c.

In ponds and slow streams. Local or rare but widely distributed across the State, from Saratoga and Schenectady counties westward.

Sander's lake, Schenectady, where first discovered by Beck, *Pearson*; Canaderaga lake, *Miss S. Cooper*; outlet of Schuyler lake, *Gray*; southern part of Oneida county, *Crave, Kneiskern*; ponds near Augusta, *J. S. Douglass*; Oswego Falls, *Aiken*; Sodus Bay, *Eaton* (Paine, Cat. Pl. Oneida Co. 96. 1865). Outlet of Owasco lake, Cayuga county, *Hall* (Paine, l.c. 187). Schenectady, *Beck* (Beck Herbarium); *Wright & Hall* (Cat. Pl. Troy, 8. 1836). Tully, Onondaga county, *Goodrich* (Fl. Onondaga Co. 189. 1912). Sodus Bay, *Fish* (Proc. Rochester Acad. 3: 77. 1896). Paddy lake, Oswego county, *Wibbe* (Torr. Club Bul. 10: 46. 1883). Saratoga lake, *Allen* (Torr. Club Bul. 21: 497. 1894). Black creek, Bergen, Genesee county, *Peck*. Little York lake, Cortland county, *Dudley*. Honeoye lake, Ontario county, *Baxter*.

GALINSOGA Cav. Icon. 3: 41. 1794*Adventina* Raf. New Fl. N. Am. 1: 67. 1836**Galinsoga parviflora** Cav., l.c. *pl.* 281

Galinsoga

A. parviflora Raf., l.c.

In dooryards and waste places. Common throughout most sections of the State outside of the higher Adirondacks. Naturalized from warmer portions of America, and reported at Tarrytown in 1882 by *E. C. Howe* (Torr. Club Bul. 9: 35), although apparently introduced prior to 1836, when described by Rafinesque.

2 Galinsoga ciliata (Raf.) Blake, Rhodora 24: 35. 1922*Adventina ciliata* Raf., l.c. 67*G. parviflora* var. *hispida* DC. Prodr. 5: 677. 1836. Not *G. hispida* Benth.¹⁸⁴⁴
G. aristulata Bicknell, Torr. Club Bul. 43: 270. 1916

Frequent in many localities especially in the southern part of the State, and like the preceding, naturalized from the South.

HELENIUM L. Sp. Pl. 886. 1753*Helenia* L. Gen. Pl. ed. 5, 377. 1754*Leptophora* Raf. Am. Mo. Mag. 4: 195. 1819*Heleniastrum* (Vaill.) Kuntze, Rev. Gen. Pl. 341. 1891**1 Helenium latifolium** Mill. Gard. Dict. ed. 8, No. 2. 1768*H. canaliculatum* Lam. Jour. Hist. Nat. 2: 213. 1792*H. pumilum* Willd. Enum. Suppl. 60. 1813*Helenia decurrens* Moench, Meth. 589. 1794

Heads solitary on slender peduncles, sometimes more than one; bracts linear-lanceolate, 10-15 mm long; pistillate ray-flowers (ligules) 18-25 mm long, deeply 3-4 lobed at the broadened apex; disk globose, 18-22 mm in diameter and the glandular-granuliferous corollas about 4 mm long; leaves 5-15 cm long, the larger cauline ones often half as broad as long, the expanded heads often 5-6 cm broad.

Thickets along the shore of Oneida lake at Sylvan Beach, (Oneida county, *House*.

Rydberg in the North American Flora (34: 127. 1915) has used this name of Miller's, which was based upon cultivated material, to include nearly all of the broad-leaved forms, some of which apparently belong in *H. autumnale*. The name is used here in a restricted sense to include only the large flowered species, common at Oneida lake.

2 ***Helenium autumnale*** L. Sp. Pl. 886. 1753

Narrow-leaved false or swamp sunflower

H. longifolium Smith, in Rees Cycl. 17: no. 2. 1811

Heleniastrum autumnale Kuntze, l.c. 342

In wet meadows, swamps and along streams and borders of ponds and lakes. Common across the State northward, and occasional southward to Long Island and Staten Island.

3 ***Helenium nudiflorum*** Nutt. Trans. Am. Phil. Soc. II. 7: 384. 1841

Purple-headed sneezeweed

? *H. flexuosum* & *H. dichotomum* Raf. New Fl. 4: 81. 1838

Leptopoda brachypoda T. & G. Fl. N. Am. 2: 388. 1842

H. brachypoda Wood, Bot. & Fl. 182. 1870

Heleniastrum nudiflorum Kuntze, l.c.

Native of the western and southern states. Reported as a rare adventive in southeastern New York. Also reported from Onondaga county (probably erroneously so).

4 ***Helenium tenuifolium*** Nutt. Jour. Phila. Acad. 7: 66. 1834

Fine-leaved sneezeweed

Native of the southern states. Reported as a rare adventive in southeastern New York.

CALENDULA L. Sp. Pl. 921. 1753

Caltha Tourn.; Adans. Fam. Pl. 2: 126. 1763. Not L. 1753

Calendula officinalis L., l.c.

Pot marigold

Reported as established at Newark, Wayne county, *E. L. Hankenson* (22d Rep't State Mus. p. 53. 1869). Reported as a waif of an escape from other localities. Probably not persistent. Native of Europe.

TAGETES L. Sp. Pl. 887. 1753**Tagetes erecta** L., l.c.

Marigold

Native of Africa and rare as a garden escape or rarely established.

Waste ground near Rockville Center, Long Island, *House* (State Mus. Bul. 188: 62. 1916).**CHAENACTIS** DC. Prodr. 5: 659. 1836**Chaenactis stevioides** Hook. & Arn. Bot. Beech. Voy. 353. 1838Native of the western states. Adventive at Rochester, *Beckwith* (N. Y. State Mus. Bul. 139: 20. 1910).**GAILLARDIA** Foug. Mem. Acad. Sci. Paris 1786: 5. *pl.* 1, 2. 1788**Gaillardia aristata** Pursh, Fl. Am. Sept. 573. 1814

Great flowering gaillardia

Escaped from cultivation and rarely adventive or naturalized. Native of the western plains and prairies.

BOEBERA Willd. Sp. Pl. 3: 2125. 1804**Boebera papposa** (Vent.) Rydb.; Britton, Man. 1012. 1901

Fetid marigold, false dog fennel

Tagetes papposa Vent. Hort. Cels. *pl.* 36. 1800*Boebera chrysanthemoides* Willd., l.c.*Dryosdia chrysanthemoides* Lag. Gen. & Sp. Nov. 29. 1816*D. papposa* Hitchc. Trans. St. Louis Acad. 5: 503. 1891On the slope of Cobb's Hill reservoir, Rochester, *Baxter* (Proc. Rochester Acad. 5: 97. 1917. Adventive from the western states.**ACHILLEA** (Vaill.) L. Sp. Pl. 898. 1753**Millefolium** (Tourn.) Adans. Fam. Pl. 2: 128. 17631 **Achillea occidentalis** Raf.; (DC. Prodr. 6: 24, as synonym. 1837) Rydb. Torr. Club Bul. 37: 456. 1910 Western yarrow*A. setacea* Schw. in Keating, Narr. Long Exp. 2: 396. 1824. Not Waldst. & Kit. 1802*A. Millefolium occidentalis* DC., l.c.In open woods. Rare across the State eastward, and largely adventive from the West. Apparently native in western New York from Oswego (*Sheldon*), westward.2 **Achillea lanulosa** Nutt. Jour. Acad. Phila. 7: 36. 1834

Woolly yarrow

A. tomentosa Pursh, Fl. Am. Sept. 563. 1814. Not L. 1753*A. Millefolium lanulosa* Piper, Mazama 2: 97. 1901

In fields and waste places. A rare adventive from the middle and western states. Rochester (*Baxter*), and perhaps elsewhere.

3 ***Achillea asplenifolia*** Vent. Descr. Pl. Cels. *pl.* 95. 1803.

A. rosea Desf. Tabl. 105. 1804

A. Millefolium asplenifolia Farwell, Asa Gray Bul. 3: 21. 1895

Occasional as an escape from cultivation.

4 ***Achillea Millefolium*** L. l.c. 899 Common yarrow or milfoil

Common, chiefly as a weed in waste places. Chiefly naturalized from Europe or from the South, and perhaps in part native in the southern part of the State.

Paine (Cat. 96) speaks of the abundance of this species at Little Falls and along the cliffs of Fish Creek where it abounds over the precipices from clefts of rocks, on moist soil of ledges and near dripping water or falling streams; far up the creek, for miles, through the woods, above any means of introduction.

From this it may be concluded that the species is possibly native throughout the northern part of the State, where it is quite common.

5 ***Achillea ligustica*** All. Fl. Ped. 1: 181. 1785

In cultivated ground near Tannersville, Greene county, adventive from southern Europe. Also at Onteora (*Vail*).

6 ***Achillea dentifera*** DC. Fl. Fr. 6: 485. 1815

A rare adventive in southern New York. Native of the Alps of Europe.

7 ***Achillea Ptarmica*** L., l.c. 898 Sneezeweed, white tansy

In moist soil. Local in a few sections of the State. Adventive or naturalized from Europe. Near Gloversville, *C. P. Alexander* (N. Y. State Mus. Bul. 167: 23. 1913).

ANTHEMIS (Micheli) L. Sp. Pl. 893. 1753

Chamaemelum (Tourn.) Adans. Fam. Pl. 2: 128. 1763

Maruta Cass. Bul. Soc. Philom. 1818: 167. 1818

1 ***Anthemis Cotula*** L., l.c. 894

Mayweed, dog's or fetid camomile, dillweed

A. foetida Lam. Fl. Fr. 2: 164. 1778

Maruta Cotula DC. Prodr. 6: 13. 1837

Matricaria Cotula Baillon, Hist. Pl. 8: 310. 1882.

Chamaemelum Cotula All. Fl. Pedem. 1: 186. 1785

In fields, waste places and along roadsides and railroads. Common in most sections of the State. Naturalized from Europe.

2 **Anthemis arvensis** L., l.c. Corn or field camomile

Chamaemelum arvense Schreb. Spicil. Fl. Lips. 18. 1771

Matricaria arvensis Baillon, l.c.

In fields and waste places. Infrequent or locally abundant. Adventive or naturalized from Europe.

3 **Anthemis nobilis** L., l.c. Garden, Scotch, white or low camomile

A. odorata Lam. Fl. Fr. 2: 163. 1778

Chamaemelum nobile All., l.c. 185.

Matricaria nobilis Baillon, l.c.

Sparingly escaped from gardens in southern New York. Native of Europe.

4 **Anthemis tinctoria** L., l.c. 896 Yellow or ox-eye camomile

Cota tinctoria J. Gay; Guss. Fl. Sic. Syn. 2: 866. 1844

Chamaemelum tinctorium Schreb. l.c. 145

In fields and waste places. Infrequent, local or rare, chiefly as an escape from cultivation. Native of the Old World.

CHRYSANTHEMUM L. Sp. Pl. 887. 1753

Section **Coronaria**

1 **Chrysanthemum segetum** L., l.c. 889

Yellow ox-eye, corn marigold

Matricaria segetum Schrank, Baier. Fl. 2: 406. 1789

Pyrethrum segetum Moench, Meth. 597. 1794

In waste ground and on ballast. Infrequent or rare. Adventive from Europe. Niskayuna, Schenectady county, *Wibbe* (46th Rep't N. Y. State Mus. 21. 1893).

2 **Chrysanthemum Coronarium** L., l.c. 890

Matricaria Coronaria Desr. in Lam. Encycl. 3: 737. 1791

A rare escape from cultivation, and rarely on ballast near New York City. Native of the Mediterranean region.

Section **Leucanthemum** (Tourn.)

Leucanthemum Mill. Gard. Dict. abr. ed. 4. 1754

3 **Chrysanthemum Leucanthemum** L., l.c. 888

White, field or ox-eye daisy, whiteweed

C. vulgare Lam. Fl. Fr. 2: 137. 1778

Matricaria Leucanthemum Scop. Fl. Carn. Ed. 2, 2: 147. 1772

L. Leucanthemum Rydb. N. Am. Fl. 34: 235. 1916

In fields, meadows and pastures as well as in waste places. Common nearly everywhere. Naturalized from Europe.

The var. **pinnatifidum** Lecoq. & Lamotte, Cat. Pl. Vasc. Fr. 227. 1848, is locally frequent in some sections of the State.

Section **Balsamita** (Desf.)

Balsamita Desf. Act. Soc. Hist. Nat. Paris 1: 1. 1792

4 **Chrysanthemum Balsamita** L. Sp. Pl. ed. 2, 1252. 1763

Costmary, mint geranium

Tanacetum Balsamita L. Sp. Pl. 845. 1753

Balsamita major Desf., l.c. 3

B. vulgaris Willd. Sp. Pl. 3: 1802. 1804

B. suaveolens Pers. Syn. 2: 408. 1807

Pyrethrum Tanacetum DC. Prodr. 6: 63. 1837

Balsamita Balsamita Rydb., l.c. 238

Sparingly escaped from gardens in some localities. Native of Europe.

Section **Matricaria** (Tourn.)

Matricaria L. Sp. Pl. 891. 1753

Pyrethrum (Hall.) Zinn, Cat. Pl. Goett. 414. 1757

5 **Chrysanthemum Parthenium** (L.) Bernh. Syst. Verg. Erfurt. 145. 1800

Common feverfew, featherfew

Matricaria Parthenium L., Sp. Pl. 890. 1753

M. odorata Lam. Fl. Fr. 2: 135. 1778

P. Parthenium Smith, Fl. Brit. 900. 1800

M. vulgaris S. F. Gray, Nat. Arr. Br. Pl. 2: 454. 1821

In waste places, especially about the larger cities and towns. Adventive or naturalized from Europe.

CHAMOMILLA (Hall.) Gilib. Exerc. Phyt. 178. 1792

Matricaria L. Sp. Pl. 891, in part. 1753

Chamaemelum Vis. Osserv. Matric. 12. 1845

1 **Chamomilla inodora** (L.) Gilib., l.c. 179

Scentless camomile, corn mayweed

Matricaria inodora L. Fl. Suec. ed. 2, 297. 1755

Chrysanthemum inodorum L. Sp. Pl. ed. 2, 1253. 1763

Pyrethrum inodorum Moench, Meth. 597. 1794

Chamaemelum inodorum Vis., l.c. 13

In fields and waste places. Infrequent or rare. Adventive or naturalized from Europe.

2 **Chamomilla maritima** (L.) Rydberg, N. Am. Fl. 34: 230. 1916

Matricaria maritima L. Sp. Pl. 891. 1753

Pyrethrum maritimum Smith, Fl. Brit. 901. 1800

On ballast, near New York City. Adventive from Europe.

3 **Chamomilla Chamomilla** (L.) Rydberg, l.c. 231

Wild or German chamomile

Matricaria Chamomilla L. Sp. Pl. 891. 1753

M. suaveolens L. Fl. Suec. ed. 2, 297. 1755

Leucanthemum Chamaemelum Lam. Fl. Fr. 2: 139. 1778

Chamomilla vulgaris S. F. Gray, l.c. 454

In waste places and on ballast. Uncommon or rare in southeastern New York. Adventive or fugitive from Europe.

- 4 *Chamomilla suaveolens* (Pursh) Rydberg, l.c. 232
Rayless camomile, wild marigold

Santolina suaveolens Pursh, Fl. Am. Sept. 520. 1814. Not *Matricaria suaveolens* L., 1755

Artemisia matricarioides Less. Linnaea 6: 210. 1831

Tanacetum suaveolens Hook. Fl. Bor. Am. 1: 327. 1833

Lepidanthus suaveolens Nutt. Trans. Am. Phil. Soc. II. 7: 397. 1841

Matricaria matricarioides Porter, Torr. Club Mem. 5: 341. 1894

In waste places, on ballast and along railroads. An infrequent or local adventive from the Pacific coast. Lansingburg, Peck (N. Y. State Mus. Bul. 67: 19. 1903). Lisbon, Phelps.

TANACETUM (Tourn.) L. Sp. Pl. 843. 1753

Tanacetum vulgare L., l.c. 844 Tansy

Along roadsides and in waste or neglected grounds, chiefly as an escape from gardens and well naturalized in many places. Native of Europe.

The var. *crispum* DC., frequent in cultivation is also occasionally found as an escape.

ARTEMISIA (Tourn.) L. Sp. Pl. 845. 1753

Absinthium (Tourn.) Lam. Fl. Fr. 2: 45. 1778

Abrotanum (Tourn.) Neck. Elem. 1: 98. 1790

- 1 *Artemisia glauca* Pall.; Willd. Sp. Pl. 3: 1831. 1804
Silky wormwood

Cobb's hill reservoir, Rochester, Baxter (N. Y. State Mus. Bul. 167: 23. 1913). Adventive from the West.

- 2 *Artemisia dracunculoides* Pursh, Fl. Am. Sept. 742. 1814
Linear-leaved wormwood

Cobb's hill reservoir, Rochester, Beckwith, Baxter (N. Y. State Mus. Bul. 167: 23. 1913; Proc. Rochester Acad. 5: 97. 1917). Adventive from the West.

- 3 *Artemisia caudata* Michx. Fl. Bor. Am. 2: 129. 1803
Tall or wild wormwood

In dry sandy soil along the sea beaches of Long Island and along Lake Ontario.

Shore of Lake Ontario at Monroe county, White; Webster, Booth (Proc. Rochester Acad. 3: 77. 1896; 5: 97. 1917).

4 *Artemisia canadensis* Michx. Fl. Bor. Am. 2: 129. 1803

Canada wormwood

In rocky soil, rarely in waste places, northern and western New York. Not common.

Sandy shores of Lake Erie and Lake Ontario, *Kneiskern*, *Beck* (Torrey, Fl. N. Y. 1: 394. 1843). Oswego, *Wibbe* (Torr. Club Bul. 10: 46. 1883). Oneida county, *Kneiskern*; along Irondequoit bay, *Holzer*; Greece, *Bradley* (Paine, Cat. pl. Oneida Co. 97. 1865). Thurman Station, Warren county, *Peck* (34th Rep't State Mus. p. 54. 1881). Rochester (Proc. Rochester Acad. 3: 78. 1896; 5: 97. 1917). Common on shore of Lake Ontario in Jefferson county, *House*.

5 *Artemisia absinthium* L. Sp. Pl. 848. 1753

Common wormwood, absinth

In waste places, frequent or common throughout northern, central and western New York. Rare southward in the State. Naturalized from Europe.

6 *Artemisia frigida* Willd. Sp. Pl. 3: 1838. 1804

Pasture sagebrush, wormwood sage

Cobb's hill reservoir, Rochester, *Beckwith* (State Mus. Bul. 157: 21. 1912; Proc. Rochester Acad. 5: 97. 1917). Adventive from the West.

7 *Artemisia biennis* Willd. Phytogr. 11. 1794

Biennial wormwood

In waste places, along roadsides and railroads, rarely in fields. Locally frequent in many sections of the State. Naturalized from the West.

Oswego, *G. W. Clinton* (Paine, Cat. Pl. Oneida Co. 187. 1865). Rochester and vicinity, *Baxter*, *Beckwith*, *Fuller* (Proc. Roch. Acad. 3: 78. 1896; 5: 21, 97. 1910-17).

8 *Artemisa annua* L. Sp. Pl. 847. 1753

Annual wormwood

In waste places, infrequent or rare as a weed. Naturalized from Europe.

9 *Artemisia vulgaris* L. Sp. Pl. 848. 1753

Common mugwort

In waste places, along roadsides and railroads, locally frequent in many sections of the State. Naturalized from Europe.

10 *Artemisia serrata* Nutt. Gen. 2: 142. 1818

Sawleaf mugwort

Banks of the Mohawk, 3 miles below the aqueduct, Schenectady *Wibbe* (46th Rep't State Mus. p. 21. 1893). Naturalized from the West.

11 *Artemisia gnaphalodes* Nutt. Gen. 2: 143. 1818

Prairie or western sage, cudweed mugwort

Locally established in waste ground in a few localities. Native of the western states.

Cobb's hill reservoir, Rochester, *Beckwith* (Proc. Rochester Acad. 5: 98. 1917). About ruins of grain elevator, Rochester, *D. M. White*.

12 *Artemisia Carruthii* Wood; Carruth, Trans. Kans. Acad. Sci.

5: 51. 1877

Kansas or Carruth's wormwood mugwort

A. kansana Britton; Britton & Brown, Illus. Fl. 3: 466. 1898

A. coloradensis Osterhout, Torr. Club Bul. 27: 506. 1900

Cobb's hill reservoir, Rochester, *Baxter* (State Mus. Bul. 167: 23. 1913). Adventive from the West.

13 *Artemisia Abrotanum* L. Sp. Pl. 845. 1753 Southernwood

In waste places, infrequent or rare, but rather widely distributed across the State. Adventive or naturalized from Europe.

14 *Artemisia pontica* L. Sp. Pl. 847. 1753

Roman or Hungarian wormwood

In waste ground and on ballast. Rare as a weed in southern New York and occasionally elsewhere. Sometimes cultivated.

15 *Artemisia filifolia* Torr. Ann. Lyc. N. Y. 2: 211. 1827

Silvery wormwood

Cobb's hill reservoir, Rochester, *Beckwith* (Proc. Rochester Acad. 5: 97. 1917). Adventive from the West.

16 *Artemisia tripartita* Rydb. N. Y. Bot. Gard. Mem. 1: 432. 1900

A. trifida Nutt. Trans. Am. Phil. Soc. (II) 7: 398. 1841. Not Turcz. 1832

Cobb's hill reservoir, Rochester, *Beckwith* (Proc. Roch. Acad. 5: 98. 1917). Adventure from the West.

17 *Artemisia procera* Willd. Sp. Pl. 3: 1818. 1804

Reported (in Britton & Brown, Illus. Fl. ed. 2, 3: 526. 1913), as escaped from gardens at Buffalo. Native of Europe and Asia.

- 18 *Artemisia Stelleriana* Bess. Abrot. 79. pl. 5, 1829
Beach wormwood
Sandy sea beaches on Long Island and Oneida lake. Locally common. Probably not native.

TUSSILAGO (Tourn.) L. Sp. Pl. 865. 1753

- Tussilago Farfara* L., l.c. Coltsfoot, coughwort
In moist soil, on banks and roadsides, and along railroads. Common in most sections of the State. Naturalized from Europe.

PETASITES (Tourn.) Mill. Gard. Dict. abr. ed. 4. 1754

- Petasites palmata* (Ait.) A. Gray in Brew. & Wats. Bot. Calif. 1: 407. 1876 Palmate-leaved sweet coltsfoot

Tussilago palmata Ait. Hort. Kew. 2: 188. pl. 2, 1789
Nardosmia palmata Hook. Fl. Bor. Am. 1: 308. 1833

In swamps, low thickets and along streams, infrequent or rare across the State from Rensselaer and Essex counties westward to Tompkins, Genesee, Wyoming and Erie counties.

Near Saratoga, *Dr Steele, Professor Hitchcock* (Torrey, Fl. N. Y. 1: 331. 1843). Dundee, *Wright*; valley of Genesee river between Rochester and Lake Ontario, *Booth* (Paine, Cat. Pl. Oneida Co. 91. 1865). Buttermilk glen, Ithaca, *Prentiss, G. W. Wood*; Machias, Wyoming Co. *Clinton* (28th Rep't N. Y. State Mus. p. 83. 1876). Guilderland, Albany county, *Peck* (31st Rep't State Mus. p. 52. 1879). Sandlake, Rensselaer county, *H. C. Gordinier* (39th Rep't State Mus. p. 54. 1886). Orville, Onondaga county, *Goodrich* (Fl. Onondaga Co. 191, 1912). Newcomb, Essex county, *House*. Canton, *Phelps*.

ARNICA L. Sp. Pl. 884. 1753

- Arnica mollis* Hook. Fl. Bor. Am. 1: 331. 1833
Hairy arnica

A. Chamissonis Britton & Brown, Illus. Fl. ed. 1. 1898
A. mollis var. *petiolaris* Fernald, Rhodora 7: 150. 1905

Shaded slopes and borders of brooks in the higher Adirondack mountain section.

Indian Pass, *Peck* (Bul. N. Y. State Mus. 28: 107. 1899; 54th Rep't 159. 1901). See also Torrey, Fl. N. Y. 1: 403. pl. LX. 1843.

ERECHTITES Raf. Fl. Ludov. 65. 1817

Ptileris Raf. Am. Mo. Mag. 2: 268. 1818

- Erechtites hieracifolia* (L.) Raf.; DC. Prodr. 6: 294. 1837
Fireweed, pilewort

Senecio hieracifolia L. Sp. Pl. 866. 1753
E. elongata Raf., in DC., l.c.

In woodlands, thickets and waste ground, very common especially on burned over woodland soil.

Fernald (*Rhodora* 19: 27. 1917) distinguishes, on leaf characters, two varieties, viz: **intermedia** Fernald, and var. **praealta** (Raf.) Fernald (*E. praealte* Raf. Fl. Ludor. 65. 1817)

CACALIA L. Sp. Pl. 834. 1753

Section **Synosma** DC.

Synosma Raf.; Loud. Gard. Mag. 8: 247. 1832

1 **Cacalia suaveolens** L., l.c. 835 Sweet-scented Indian plantain

Senecio suaveolens Ell. Bot. S. C. & Ga. 2: 328. 1821

Synosma suaveolens Raf., l.c.

In woods. Rather rare from central and western New York southward.

Riverbanks near Oxford, Chenango county, *Coville*; Apalachin, Tioga county, *Fenno* (Clute, Fl. Upper Susquehanna 62. 1898). Marcellus, Onondaga county, *Goodrich* (Fl. Onondaga Co. 191. 1912). Penfield, Monroe county, *Holser*; Greece, *Bradley*; Avon, Livingston county, *B. D. Greene* (Paine, Cat. Pl. Oneida Co. 97. 1865). Rochester, *Holser* (Clinton in 19th Rep't N. Y. State Mus. 205. 1866). Near LeRoy, *Baxter*; Irondequoit Bay, *Booth*; Penfield *Fish*; Banks of Genesee river near Black creek, *Baxter* (Proc. Rochester Acad. 3: 78. 1896; 5: 22. 1910).

Section **Conophora** DC.

Mesadenia Raf. Loud. Gard. Mag. 8: 247. 1832; New Fl. 4: 78. 1838.

Not Raf. Med. Fl. 1: 198. 1828 (= *Frasera* Walt.)

Conophora (DC.) Nieuwl. Am. Mid. Nat. 3: 193. 1914

2 **Cacalia atriplicifolia** L., l.c.

Great Indian plantain, wild collard

Mesadenia atriplicifolia Raf., l.c. 79

Senecio atriplicifolius Hook. Fl. Bor. Am. 1: 332. 1833

Conophora atriplicifolia Nieuwl. Am. Mid. Nat. 3: 193. 1914

Cacalia gigantea Nees & Schauer, Ind. Sem. Vratisl. 1841, & Linnaea 16: 216

In woods and clearings. Rare from Chemung county westward to Lake Erie and southward.

Wellsburg, Chemung county, *Lucy* (Torr. Club Bul. 8: 115. 1881). Genesee river, *Sartwell*, *Harris*, *Bradley* (Paine, Cat. Pl. Oneida Co. 97. 1865; Proc. Rochester Acad. 3: 78. 1896). Near Geneseo, *Bennett* (Torr. Fl. N. Y. 1: 401. 1843).

SENECIO (Tourn.) L. Sp. Pl. 866. 1753

1 **Senecio vulgaris** L., l.c. 867

Common groundsel

In cultivated ground and waste places, often in muddy or wet soil. Frequent or locally common in many sections of the State. Naturalized from Europe.

2 **Senecio viscosus** L., l.c. 868 Fetid or viscous groundsel
In waste places and on ballast. A rare adventive in southern New York. Native of Europe.

3 **Senecio Jacobaea** L., l.c. 870 Tansy ragwort, staggerwort
In waste places and on ballast about New York City. A rather rare adventive from Europe.

4 **Senecio eremophilus** Richards. in Frankl. Jour. App. ed. 2, 31. 1824
Cobb's Hill reservoir, Rochester (Proc. Rochester Acad. 5: 98. 1917). Adventive from the West.

5 **Senecio Robbinsii** Oakes; Rusby, Torr. Club Bul. 20: 19. 1893
Robbin's squaw-weed
S. aureus var. *lanceolatus* Oakes, in Hovey's Mag. Hort. May, 1841

In swamps and mountain meadows. Locally common across the northern part of the State.

Third lake, Herkimer county, *Paine* (Cat. Pl. Oneida Co. 98 1865). Mount Marcy, *Britton*. Rocky banks of Black river below Brownsville, Jefferson county, *Peck* (47th Rep't N. Y. State Mus. 16. 1894). North Elba, *Peck* (49th Rep't 25. 1896). Inlet, Hamilton county; Newcomb, Essex county, *House*.

6 **Senecio aureus** L., l.c. 870 Golden ragwort, swamp squaw-weed
S. pauciflorus Pursh, Fl. Am. Sept. 529. 1814
S. gracilis Pursh, l.c.

In swamps and wet meadows. Common in most sections of the State, but rare on the coastal plain of Long Island.

Senecio aureus x **pauperculus** House, N. Y. State Mus. Bul. 243-244: 27. 1923. (*S. aureus* x *Balsamitae* Greenman, *Rhodora* 10: 69. 1908). Bergen swamp, Genesee county, *House*.

Senecio aureus x **Robbinsii** House, l.c. 25. Newcomb, Essex county, *House*.

This hybrid closely simulates *S. Robbinsii*, but the intermediate appearance of the leaf-blades and the fact that it bloomed just as the earlier flowering *S. Robbinsii* was passing out of bloom and as *S. aureus* was just beginning to bloom, together with the fact that the plants grew on a moist bank with *S. aureus* in the bog below and *S. Robbinsii* on the bank above leads to the conclusion that they were of hybrid origin.

7 **Senecio obovatus** Muhl.; Willd. Sp. Pl. 3: 1999. 1804
Round-leaved squaw-weed

S. Elliottii T. & G., Fl. N. Am. 2: 443. 1843
S. aureus var. *obovatus* T. & G., l.c.

In moist soil in woods and on banks. Rare northward across the State south of the Adirondacks. More frequent southward.

Green Island, *Wright & Hall* (Cat. Pl. Troy 36. 1836). Little Falls; Yates county, *Sartwell* (Paine, Cat. Pl. Oneida Co. 98. 1865). Southfields, Orange county, and New Baltimore, Greene county, *Peck* (50th Rep't N. Y. State Mus. 94. 1897). Richmond Hill, Long Island, *Hulst* (*Torreya* 2: 53. 1902). Green lake, Onondaga county, *Goodrich* (Fl. Onondaga Co. 191. 1912). Little Falls, *House*. Glenmont, Albany county, *House* (with early leaves more plantagineous and short petioled, the *S. Elliottii* T. & G.).

8 *Senecio pauperculus* Michx. Fl. Bor. Am. 2: 120. 1803

Balsam groundsel

S. Balsamitae Muhl.; Willd. Sp. Pl. 3: 1999. 1804

S. aureus var. *Balsamitae* T. & G. Fl. N. Am. 2: 442. 1843

S. aureus var. *pauperculus* MacM. Met. Minn. 556. 1893

In dry or rocky soil or in boggy meadows and marly depressions. Not common.

Todt Hill, Staten Island, *Taylor* (Fl. Vic. N. Y. 636. 1915). Southfield, Orange county, *Peck* (39th Rep't N. Y. State Mus. 54. 1885). Rocky banks of Black river opposite and below Watertown, Jefferson county, and in Bergen swamp, Genesee county *Paine* (Cat. Pl. Oneida Co. 98. 1865). Brownville, Jefferson county, *Peck* (46th Rep't 47. 1893). Whitehall, Washington county, *Peck* (50th Rep't 95. 1897). Tamarack or Lodi swamp, Syracuse (formerly), *Sheldon, House*. Colton, St Lawrence county, *Phelps*.

Var. *praelongus* (Greenman) *House*, l.c. 62. (*S. Balsamitae* var. *praelongus* Greenman, *Rhodora* 3: 6. 1901), is reported from northern New York in the seventh edition of Gray's Manual (1908), but is not represented in the state herbarium.

ARCTIUM L. Sp. Pl. 816. 1753

Lappa (Tourn.) Hill, Veg. Syst. 4: 28. 1761

1 *Arctium Lappa* L., l.c.

Great burdock or clotbur

Lappa Arctium Hill, l.c. fig. 2a, b.

L. glabra Lam. Fl. Fr. 2: 37. 1778

L. officinalis All. Fl. Ped. 1: 145. 1785

L. major Gaertn. Fruct. 2: 379. t. 162. f. 3. 1789

L. Bardana Moench, Meth. 552. 1794

In waste places. Infrequent as a weed in southern New York, northward to Washington county, *House*; St Lawrence county, *Phelps*, and westward to Genesee county, *Barter* (Proc. Rochester Acad. 5: 22. 1910), probably of wider distribution. Naturalized from Europe.

Petioles solid, involucrel bracts (phyllaries) equalling or exceeding the flowers, the heads one inch or more in diameter.

2 **Arctium tomentosum** Mill. Gard. Dict. ed. 8, No. 3. 1768

A. Lappa, β. L. Sp. Pl. 816. 1753

Lappa tomentosa Lam. Encycl. 1: 377. 1783

A. Bardana Willd. Sp. Pl. 3: 1632. 1800

A. Lappa var. *tomentosa* A. Gray, Syn. Fl. 1²: 397. 1884

In waste places. Infrequent or rare across the State. Adventive from Europe.

3 **Arctium minus** (Hill) Bernhardi, Syst. Verz. Erf. 1: 154. 1800

Small burdock

Lappa minor Hill, Syst. Veg. 4: 28. f. 3a. 1761

Arctium nemorosum Lejeune, Comp. Fl. Belg. 3: 129. 1836

Lappa glabra Aschers. & Graebn. Fl. Nord. Flachl. 743. 1899

In waste places. Common throughout most sections of the State. Naturalized from Europe. Forma *leucocephalum* House, l.c. 41, with pure white flowers is reported from Monroe county, *Beckwith* (Proc. Rochester Acad. 5: 98. 1917).

Heads oval, racemose, nearly closed in fruit by the appressed phyllaries; the heads small, one-half to three-quarter inch broad; petioles solid.

4 **Arctium vulgare** (Hill) Evans, Jour. Bot. 51: 117. 1913

Lappa vulgaris Hill, l.c. 28. f. 1a, b.

Arctium personata Mill., l.c. No. 2, Not L.

A. Lappa Schk. Bot. Handb. 3: 48. 1803. Not L.

L. intermedia Lange, Fl. Dan. t. 2663. 1844

A. intermedium Lange, Dansk. Fl. 463. 1851

Heads about the same size as the preceding, but subcorymbose, open in fruit by the spreading phyllaries; petioles solid.

Some of the material from this State commonly referred to *A. minus*, apparently belongs here, but the scarcity of good collections renders it impossible to determine at this time the relative abundance and distribution of this species, which like all members of the genus, is adventive or naturalized from Europe.

CIRSIUM (Tourn.) Mill. Card. Dict. abr. ed. 4. 1754

1 **Cirsium lanceolatum** (L.) Hill, Brit. Herb. 1: 80. 1769

Common bur or spear thistle

Carduus lanceolatus L. Sp. Pl. 821. 1753

Cnicus lanceolatus Willd. Prodr. Fl. Berol. 259. 1787

In fields and waste places, locally frequent as a weed in most sections of the State. Naturalized from Europe.

2 **Cirsium altissimum** (L.) Spreng. Syst. 3: 373. 1826

Tall or roadside thistle

Carduus altissimus L. Sp. Pl. 824. 1753

Cnicus altissimus Willd. Sp. Pl. 3: 1671. 1804

In fields and thickets, Rensselaer county south to Westchester county and westward across the State. Infrequent.

3 *Cirsium discolor* (Muhl.) Spreng. Syst. 3: 373. 1826

Field thistle

Cnicus discolor Muhl.; Willd. Sp. Pl. 3: 1673. 1804

Carduus discolor Nutt. Gen. 2: 130. 1818

Cnicus altissimus var. *discolor* A. Gray, Proc. Am. Acad. 19: 56. 1884

In fields and along roadsides, frequent or common as a weed in southern New York. Less frequent northward across the State. Not reported from the Adirondacks.

Forma *albiflora* (Britton) House, N. Y. State Mus. Bul. 243-244: 55. 1923 (*Cnicus altissimus* var. *discolor*, forma *albiflora* Britton, Torr. Club Bul. 17: 124. 1890), reported from Long Island and Staten Island.

4 *Cirsium odoratum* (Muhl.) Britton; in Britton & Brown, Illus.

Fl. ed. 2, 3: 552. 1913

Pasture or fragrant thistle

Cnicus odoratus Muhl. Cat. 70. 1813

Carduus pumilus Nutt. Gen. 2: 130. 1818

Cnicus pumilus Torr. Compend. Fl. 282. 1826

Cirsium pumilum Spreng. Syst. 3: 374. 1826

Carduus odoratus Porter, Torr. Club Mem. 5: 345. 1894

In fields, infrequent or rare across the State, south of the Adirondacks.

Schenectady, *Pearson*; Otsego county, *H. Lathrop*; Yates county, *Sartwell* (Paine, Cat. Pl. Oneida Co. 98. 1865). New London, Oneida county, *House*. Tully, Onondaga county, *Goodrich* (Fl. Onondaga Co. 192. 1912). Infrequent (Proc. Rochester Acad. 3: 79. 1896).

5 *Cirsium horridulum* Michx. Fl. Bor. Am. 2: 90. 1803

Yellow thistle

Carduus spinosissimus Walt. Fl. Car. 194. 1788. Not *Cirsium spinosissimum* (L.) Scop.

Cnicus horridulus Pursh, Fl. Am. Sept. 507. 1814

Cirsium megacanthum Nutt. Trans. Am. Phil. Soc. (II) 7: 419. 1841

In moist or dry sandy soil, chiefly along the coast of Long Island and Staten Island, especially on the edges of salt marshes. Inland at Spring Valley, Rockland county (Taylor).

6 *Cirsium muticum* Michx. Fl. Bor. Am. 2: 89. 1803

Swamp thistle

Carduus muticus Pers. Syn. 2: 386. 1807

Cnicus muticus Pursh, Fl. Am. Sept. 506. 1814

Cnicus glutinosus Bigel. Fl. Bost. ed. 2, 291. 1824

Cirsium Bigelowii DC. Prodr. 6: 652. 1837

In swamps and moist soil, frequent or locally abundant throughout most sections of the State. Rare on the coastal plain of Long Island.

Var. **subpinnatifidum** (Britton) Fernald, *Rhodora* 10: 95. 1908
Carduus muticus subpinnatifidus Britton; in Britt. & Brown, *Illus. Fl.* 3: 489. 1898

Infrequent or occasional with the typical form.

7 **Cirsium arvense** (L.) Scop. *Fl. Carn. ed. 2*, 2: 126. 1772
 Canada thistle, creeping thistle

Serratula arvensis L. *Sp. Pl.* 820. 1753
Carduus arvensis Robs. *Brit. Fl.* 163. 1777
Cnicus arvensis Hoffm. *Deutsch. Fl. ed. 2*, 1²: 130. 1804

In fields and waste places, common throughout the State. Naturalized from Europe.

Var. **vestitum** Wimm. & Grab., with the leaves permanently white-lanate beneath, is locally established. Var. **integrifolium** Wimm. & Graeb., with the leaves chiefly plane and uncut or the lowest slightly pinnatifid, is rare or local.

8 **Cirsium palustre** (L.) Scop. *Fl. Carn. ed. 2*, 2: 128. 1772
 Marsh thistle

Carduus palustris L. *Sp. Pl.* 822. 1753

Reported as a waif near Queens, Long Island. Native of Europe and northern Asia.

CARDUUS (Vaill.) L. *Sp. Pl.* 820. 1753

Carduus crispus L. *Sp. Pl.* 821. 1753
 Curled thistle, welshed thistle

Rare as a weed in waste places and fields. Adventive from Europe.

Near New York, *Taylor*. Helderberg mountains, *Burnham* (State Mus. *Bul.* 139: 20. 1910). Cobb's hill reservoir, Rochester, *Macaulay* (*Proc. Rochester Acad.* 5: 98. 1917).

Carduus nutans L. has been collected on ballast near Jersey City and Hoboken, but not definitely reported as a waif in this State. Native of Europe.

MARIANA Hill, *Veg. Syst.* 4: 19. 1762

Silybum Vaill.; *Adans. Fam. Pl.* 2: 116. 1762

Mariana mariana (L.) Hill, l.c. Milk thistle

Carduus mariana L. *Sp. Pl.* 823. 1753
Silybum marianum Gaertn. *Fr. & Sem.* 2: 378. 1802

In waste grounds and on ballast. Rare.

Rare as a weed about New York (*Taylor*). Orient, Long Island *Burnham & Latham* (*Torrey* 14: 254. 1914). Rochester (*Proc. Roch. Acad.* 3: 79. 1896).

ONOPORON Vaill.; L. Sp. Pl. 827. 1753

Onopordon acanthium L. Sp. Pl. 827. 1753

Cotton thistle, Scotch thistle

In waste places, infrequent or rare, but widely distributed throughout the State. Naturalized from Europe.

Sailor's Snug Harbor, Staten Island, *Hollick* (*Torr. Club Bul.* 22: 461. 1895). Gardiner's island, Orient and East Marion, Long Island, *Burnham & Latham* (*Torrey* 14: 254. 1914). Albany 1827; Queenstown 1862; Rochester 1864, (*Clinton* in 19th Rep't Regents, p. 200. 1866). Fairfield, Herkimer county, *Hadley*; Rochester and toward the lake (Ontario), *Booth*; ledges of limestone and roadsides near Page's Corners, southern Herkimer county and hills near Warren, *Paine* (*Cat. Pl. Oneida Co.* 98, 187. 1865). Rochester, Irondequoit, Chili, Bergen, and in Wayne county (*Proc. Rochester Acad.* 3: 79. 1896).

CENTAUREA L. Sp. Pl. 909. 1753

Setachna Dulac. Fl. Hautes-Pyr. 518. 1867

Section **Cyanus**

Cyanus Mill. Gard. Dict. 4th abr. ed. 1754

1 **Centaurea Cyanus** L., l.c. 911

Blue-bottle, corn flower, corn blue-bottle

Cyanus acvensis Moench, Meth. 561. 1794

Cyanus cyanus Hill, Hort. Kew. 64. 1768

Setachna Cyanus Dulac, l.c. 520

In waste places, chiefly as an escape from gardens and also in ballast. Occasional in many sections of the State. Naturalized from Europe.

Section **Jacea**

Jacea (Tourn.) Mill. Gard. Dict. 4th abr. ed. 1754

2 **Centaurea Jacea** L. l.c. 914

Brown or rayed knapweed

Cyanus Jacea Gaertn. Mey. & Schreb. Fl. Wett. 3: 172

Jacea communis Delarb. Fl. Auv. ed. 2, 201. 1800

Setachna fimbriata Dulac, l.c. 519

In waste places, northern and western New York and in waste places and on ballast in the southeastern part of the State. Adventive or naturalized from Europe. Var. *lacera* Koch, is infrequent or rare.

3 **Centaurea nigra** L., l.c. 911

Black knapweed, horse-knops, hardheads

Jacea nigra Hill, Herb. Brit. 1: 83

Setachna nigra Dulac, l.c. 519

In waste places and in fields and along roadsides. Locally frequent as a weed in many places. Naturalized from Europe. The var. **radiata** DC., less frequent.

4 **Centaurea vochinensis** Bernh.; Reichenb. Icon. Pl. Germ. 15: 15. 1853 Tyrol knapweed

In waste grounds. Rare as a weed in southeastern New York. Adventive from Europe. Referred by some authorities to *C. nigrescens* Willd.

Section **Plectocephalus**

Plectocephalus Don, Brit. Fl. Gard. Ser. II, t. 51. 1838

5 **Centaurea americana** Nutt. Jour. Acad. Phila. 2: 117. 1821

American star thistle

C. Nuttallii Spreng. Syst. 4: 198. 1827

Plectocephalus americanus Don, l.c.

Long pond, Monroe county, *Killip & Woodams* (Proc. Rochester Acad. 5: 98. 1917). Possibly adventive from the West.

This collection has been questioned, but the material has been reexamined. The heads are somewhat more than one inch broad, and the achenes are distinctly obliquely attached, which would seem to indicate that the record is correct.

6 **Centaurea maculosa** Lam. Encycl. 1: 669. 1783

Spotted knapweed

In waste grounds and in fields. Infrequent but widely distributed as a weed across the State. Adventive or naturalized from Europe.

Section **Calcitrapa** (*Centaurea* proper)

Centaureum majus Mill. Gard. Dict. 4th abr. ed. 1754

Calcitrapa Hill, Hort. Kew. 62. 1768

7 **Centaurea Calcitrapa** L. Sp. Pl. 917. 1735

Star thistle

Calcitrapa stellaris Hill, Herb. Brit. 1: 76. 1756

Calcitrapa Calcitrapa Hill, Hort. Kew. 62. 1768

In waste places and on ballast. A rare adventive about New York City. Native of Europe.

8 **Centaurea melitensis** L., l.c.

Rayless winged centaury

Cyanus melitensis Gaertn. Fl. & Sem. 2: 383

Calcitrapa conferta Moench, Meth. 564. 1794

A rare waif on ballast about New York City. Native of Europe.

9 **Centaurea solstitialis** L., l.c.

Barnaby's thistle

Cyanus solstitialis J. & C. Presl. Fl. Cech. 179*Calcitrapa solstitialis* Lam. Fl. Fr. 2: 34*Setachna solstitialis* Dulac, l.c. 520

In waste and cultivated grounds and on ballast. Becoming frequent in many sections of the State. Naturalized from Europe.

CNICUS (Tourn.) L. S. Pl. 826. 1753*Carbeni* Adans. Fam. Pl. 2: 116. 1763**Cnicus Benedictus** L., l.c.

Blessed thistle

Centaurea Benedicta L., Sp. Pl. ed. 2, 1296. 1763

In waste places. A rare adventive from Europe.

Reported from Rochester, Monroe county, and Kendall, Orleans county, Gannett, Lennon (Proc. Rochester Acad. 3: 79. 1896; 5: 22. 1910).

ADDENDA

Aristida gracilis Ell. (page 90) According to Hitchcock (Contr. U. S. Nat. Herb. 22: 539. 1924), Elliott's name for this species is antedated by *Aristida longispicata* Poir., in Lam. Encycl. Suppl. 1: 452. 1810

Oakesiella puberula (Michx.) Small, Fl. SE. U. S. 272. 1903*Uvularia puberula* Michx. Fl. Bor. Am. 1: 199. 1803*Oakesia puberula* S. Wats. Proc. Am. Acad. 14: 269. 1879

Reported from Manorville, Long Island, by *W. C. Ferguson* (Torr. Club Bul. 51: 188. 1924), as *Uvularia nitida* (Britton) Mackenzie. This was originally described by Britton (Trans. N. Y. Acad. Sci. 9: 13. 1889), as a variety (?) of *Oakesia sessilifolia*.

Polygonum setaceum Baldw., Ell. Bot. S.C. & Ga. 1: 455. 1817*Persicaria setacea* Small, Fl. SE. U. S. 379. 1903

Collected at Sweezy pond, Southampton, Long Island, *St John* 2703. July 26, 1920. Fernald & Wiegand (Rhodora 25: 210. 1923) report this southern species from Mud pond, Oswego county, and the specimens reported as *P. hydropiperoides* var. *stigosum*, on page 297, apparently belong also to this species.

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